

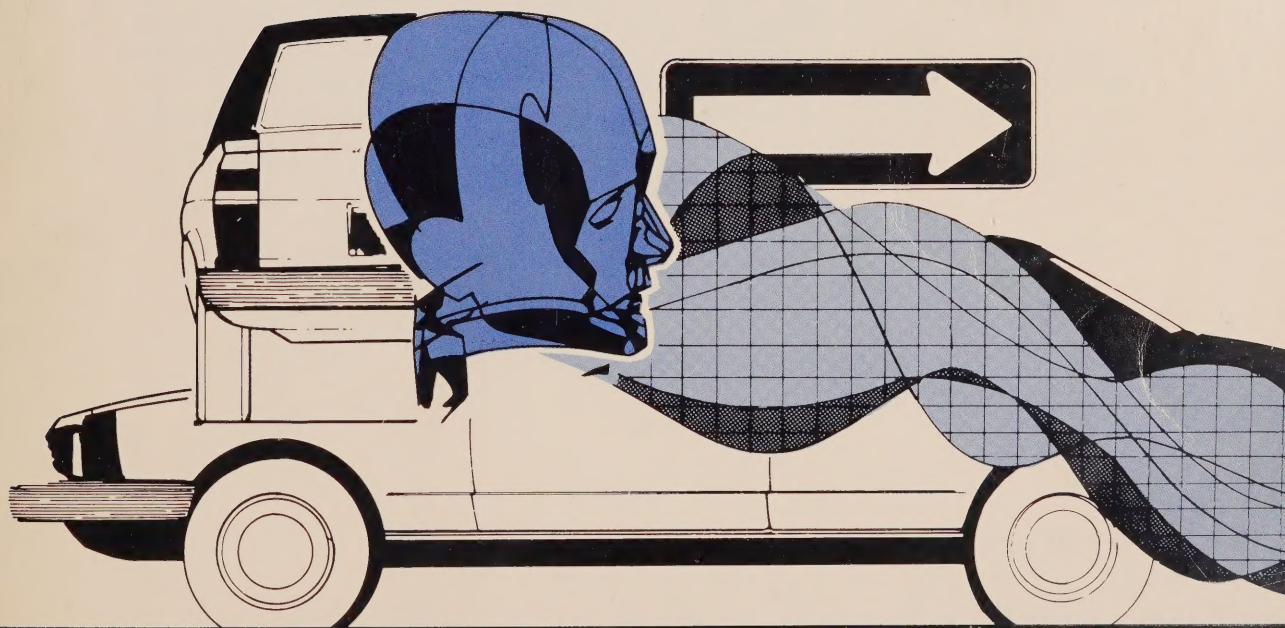
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CONSOLIDATION OF THE
MOTOR VEHICLE SAFETY ACT
AND
MOTOR VEHICLE SAFETY REGULATIONS

Revised as of 1 April 1989




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CONSOLIDATION OF THE
MOTOR VEHICLE SAFETY ACT
AND
MOTOR VEHICLE SAFETY REGULATIONS

Revised as of 1 April 1989

IMPORTANT NOTE FOR USERS

Users of this consolidation are cautioned that it has been prepared for use as a ready reference and has no legal force or effect. For all purposes of interpreting and applying these regulations, users should consult the Revised Statutes of Canada 1985 and the Consolidated Regulations of Canada, 1978 and any pertinent amending statutory instruments, as published in the Canada Gazette, Part II.

Prepared by
Departmental Secretariat, Policy and Coordination Group
in collaboration with the
Road Safety and Motor Vehicle Regulation Directorate
Transport Canada



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Available in Canada through

Associated Bookstores
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or by mail from

Canadian Government Publishing Centre
Supply and Services Canada
Ottawa, Canada K1A 0S9

Catalogue No. YX76-M10/1989E
ISBN 0-660-13264-8

DOCUMENTS REFERRED TO IN THE REGULATIONS

American Association of Textile Chemists and Colorists
documents may be ordered at the address: Post Office
Box 886, Durham, NC.

American National Standards Institute documents may be
ordered at the address: 1430 Broadway, New York, NY
10018

Motor Vehicle Manufacturers' Association address is 25
Adelaide Street East, Toronto, Ontario M5C 1Y7, Fax
(416) 367-3221 or CNCP Dialcom 21:MVM001

Motor Vehicle Safety Test Methods may be obtained by
contacting: Regulation Clerk, Road Safety and Motor
Vehicle Regulation Directorate, Transport Canada, 344
Slater Street, Ottawa, Ontario. K1A 0N5 Tel: (613)
998-1960

Society of Automotive Engineers, Inc. (SAE) documents may be
ordered by contacting: Customer Service, SAE, 400
Commonwealth Drive, Warrendale, PA. 15096 Tel:(412)
776-4970

INQUIRIES

Inquiries concerning the Motor Vehicle Safety Act,
Motor Vehicle Safety Regulations and the incorporated
references should be directed to the Road Safety and Motor
Vehicle Regulation Directorate, Transport Canada, 344 Slater
Street, Ottawa, Ontario K1A 0N5.

Principal contacts within the Directorate:

Compliance Engineering and Vehicle Testing
(613) 993-7875

Component Testing, Importation and Audit
Inspection
(613) 998-2174

Energy and Emissions Engineering
(613) 993-4981

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FAX: 819-994-1498

Authorization of the Minister of Transport to Determine Fees Regulations, SOR/85-860 --- \$2.50

Motor Vehicle Test Centre Fees Order, SOR/86-191 --- \$3.00

Motor Vehicle Tire Safety Act, R.S.C. 1985,
Chapter M-11 --- \$4.00

Motor Vehicle Tire Safety Regulations, C.R.C., c.1039 and amendments --- \$20.50

Transport Canada departmental consolidations may be obtained on microfiche from the Canadian Government Publishing Centre as above or from M. J. Monaghan, Departmental Registrar, Transport Canada, Tower C, Place de Ville, Ottawa, Ontario. K1A 0N5. Tel: (613) 991-6593 of:

a) The Motor Vehicle Safety Act, Regulations, Test Methods and Test Centre Fees

Catalogue Number - Basic Set YX75-1-26-1-EM -- \$14.80;
- Amendment Service SUP1-26EM --
\$15.75

b) The Motor Vehicle Tire Safety Act, Regulations and Test Methods

Catalogue Number - Basic Set YX79-1974-6-96-1-EM --
\$3.50
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1211	Fuel Tanks for Snowmobiles	87-660	Revoked 10/12/87

NOTE: The Motor Vehicle Test Methods referred to in these Regulations are available from:

Road Safety and Motor
Vehicle Regulations Directorate
Transport Canada
344 Slater Street
Ottawa, Ontario
K1A 0N5

An Act respecting the use of national safety marks in relation to motor vehicles and to provide for safety standards for certain motor vehicles imported into or exported from Canada or sent or conveyed from one province to another

SHORT TITLE

Short title

1. This Act may be cited as the Motor Vehicle Safety Act.

INTERPRETATION

Definitions

2. (1) In this Act,

``distributor''
«distributeur»

``distributor'' means a person engaged in the business of selling to other persons, for the purpose of resale, motor vehicles manufactured in Canada and obtained directly from a manufacturer or his agent;

``importer''
«importateur»

``importer'' means a person engaged in the business of importing motor vehicles into Canada;

``inspector''
«inspecteur»

``inspector'' means a person designated as an inspector pursuant to section 13;

``manufacture''
«fabriquer» ou «construire»

``manufacture'' includes the process of assembling or altering a motor vehicle in order to complete that motor vehicle for the purpose of sale of that motor vehicle to the first purchaser at the retail level;

``manufacturer''
«fabricant»

``manufacturer'' means a person engaged in the business of manufacturing motor vehicles;

``Minister''
«ministre»

``Minister'' means the Minister of Transport;

``motor vehicle''
«véhicule automobile»

``motor vehicle'' means any vehicle designed to be driven or drawn on roads by any means, other than exclusively by muscular power, and includes pedal cycles with auxiliary motors, minibikes and motorized snow vehicles, but does not include any vehicle designed for running exclusively on rails;

``prescribed''
«prescrit»

``prescribed'' means prescribed by regulations made under this Act;

``safety standards''
«normes de sécurité»

``safety standards'' means standards regulating the design, identification, construction or functioning of motor vehicles and their components for the purpose of protecting persons against personal injury, impairment of health or death.

Applicable safety standards defined

(2) For the purposes of this Act, the safety standards applicable to a motor vehicle of a prescribed class and its components are the safety standards prescribed for motor vehicles of that class and their components at the time the vehicle was manufactured.

PART I

GENERAL

National Safety Marks

National trade-marks

3. The words ``Canada Motor Vehicle Safety Standard`` and ``Normes de sécurité des véhicules automobiles du Canada``, and any abbreviations thereof, shall be national trade-marks and, except as provided in this Act, the exclusive property in and right to the use of those marks, in this Act referred to as the ``national safety marks``, is hereby declared to be vested in Her Majesty in right of Canada.

Regulations respecting use of national safety marks

4. (1) The Governor in Council may make regulations respecting the use of the national safety marks in relation to motor vehicles and, without restricting the generality of the foregoing, may by those regulations

(a) prescribe classes of motor vehicles to which the national safety marks may be applied and the persons who may apply them;

(b) prescribe safety standards for motor vehicles of a prescribed class and their components to which those vehicles and their components shall comply as a condition of the use of the national safety marks in relation to those vehicles;

(c) prescribe the form and manner in which any national safety mark shall be applied to a motor vehicle and the place on a motor vehicle on which it shall be applied as a condition of its use in relation to that vehicle;

(d) require, as a condition of the use of any national safety mark in relation to a motor vehicle, that in conjunction with the application thereto of any such mark there be marked on the motor vehicle in the prescribed form and manner and on the prescribed place the month and year of manufacture of the vehicle and a statement indicating that the vehicle and its components comply with all safety standards applicable thereto;

(e) require, as a condition of the use of any national safety mark in relation to a motor vehicle, that there be

established and maintained in the prescribed form and manner records that show that the motor vehicle and its components comply with all safety standards applicable thereto; and

(f) prescribe the period for which the records referred to in paragraph (e) shall be retained.

Prohibition

(2) No person shall use any national safety mark except as authorized by this Act or the regulations.

Manufacturers and Distributors

Prohibitions applicable to manufacturer or distributor

5. No manufacturer or distributor shall

(a) apply to a motor vehicle of a prescribed class any national safety mark, or

(b) sell, offer for sale, have in possession for sale or deliver for sale a motor vehicle of a prescribed class to which has been applied any national safety mark,

unless the motor vehicle and its components comply with all safety standards applicable thereto.

Export and interprovincial shipments

6. Subject to the regulations, no manufacturer or distributor shall

(a) export from Canada or deliver for export from Canada, or

(b) send or convey, or deliver for the purpose of sending or conveying, from one province to another,

a motor vehicle manufactured in Canada of a class for which safety standards have been prescribed under section 4 unless the motor vehicle and its components comply with all safety standards applicable thereto and the vehicle has a national safety mark applied to it in the prescribed form and manner and on the prescribed place.

Importation of Motor Vehicles

Regulations respecting importation of motor vehicles

7. (1) The Governor in Council may make regulations

(a) prescribing safety standards for motor vehicles of a prescribed class and their components to which those vehicles and their components shall comply as a condition of their importation into Canada; and

(b) for prohibiting the importation into Canada of any motor vehicle of a class for which safety standards have been prescribed under this section unless

(i) the motor vehicle and its components comply with all safety standards applicable thereto and evidence that the vehicle and its components comply with those standards has been obtained and produced in the prescribed form and manner, or

(ii) the motor vehicle is to be used in Canada for exhibition, demonstration or other similar purposes only or by a person entering Canada as a tourist or visitor or to pass through Canada to another country.

Prohibition

(2) No person shall import into Canada a motor vehicle contrary to any regulation made under this section.

Notice of Defects

Failure to give notice of defects

8. (1) Every person is guilty of an offence who, being a manufacturer, distributor or importer of a motor vehicle of a class for which safety standards have been prescribed under section 4 or 7, fails to give notice as provided in subsection (2) of any defect in the construction, design or functioning of that motor vehicle or its components that affects or is likely to affect the safe operation of that vehicle and of which he is aware, to

(a) the person who has obtained that motor vehicle from him for the purpose of sale or resale;

(b) the current owner of that motor vehicle as determined

(i) from any warranty by the manufacturer, distributor or importer of that motor vehicle with respect to the functioning of that motor vehicle that has, to his knowledge, been given, sold or transferred to the current owner, or

(ii) from provincial motor vehicle registration records; and

(c) the Minister.

Manner of giving notice and contents thereof

(2) The notice mentioned in subsection (1) shall

(a) be given by prepaid registered mail or in such other manner as may be prescribed; and

(b) contain a description of the defect, an evaluation of the safety risk related to that defect and a statement of the means to be taken to correct it.

Notice by publication in newspapers

(3) Where it is made to appear to the satisfaction of the Minister that the name of the current owner of a motor vehicle cannot reasonably be determined in the manner provided under paragraph (1)(b),

(a) the Minister may order notice to be given by publication in the prescribed form for a period of five consecutive days in two major daily newspapers in each of the six regions of Canada, namely, the Atlantic provinces, Quebec, Ontario, the Prairie provinces, British Columbia, and the Yukon and Northwest Territories, or by an alternative medium for such period as he deems expedient and that notice shall be deemed to be notice given in a manner provided under paragraph (2)(a); or

(b) the Minister may, in his discretion, order that the current owner need not be notified and that the obligation to notify the current owner of any defect under subsection (1) has been discharged.

Particulars to be furnished to provincial authorities

(4) Forthwith on receiving any notice mentioned in subsection (1), the Minister shall forward full particulars

thereof to the minister or other similar officer responsible for motor vehicle administration in each province.

Quarterly reports to be submitted

(5) Every manufacturer, distributor or importer who gives a notice mentioned in subsection (1) to the Minister shall submit to the Minister in the prescribed form and manner quarterly reports containing prescribed information relating to the defect.

Idem

(6) Unless the Minister otherwise directs, the quarterly reports referred to in subsection (5) shall be submitted to the Minister for a period of two years from the date of the notice mentioned in subsection (1).

Publication of Regulations

Publication of proposed regulations

9. A copy of each regulation or amendment to a regulation that the Governor in Council proposes to make under section 4 or 7 shall be published in the Canada Gazette and a reasonable opportunity shall be afforded to manufacturers, distributors, importers and other interested persons to make representations to the Minister with respect thereto.

Exemption from compliance with safety standards

10. (1) On application by a manufacturer or importer of motor vehicles of a class for which safety standards have been prescribed under section 4 or 7, the Governor in Council may by order exempt any particular model of motor vehicle from compliance with any prescribed safety standards applicable to that model of motor vehicle where compliance with those safety standards would, in the opinion of the Governor in Council,

(a) create substantial financial hardship for the manufacturer or importer applying for the exemption;

(b) prevent the development of new safety features that are equivalent to or superior to prescribed safety standards; or

(c) prevent the development of new kinds of motor vehicles and motor vehicle systems and components.

Duration of exemption

(2) An exemption may be granted under subsection (1) for a period of two years unless the exemption is granted under paragraph (1)(a) in which case the exemption may be granted for a period of three years.

Exemptions not granted under certain conditions

(3) An exemption shall not be granted under subsection (1) if the exemption would substantially degrade the safe performance of the particular model of motor vehicle mentioned in the application for exemption or if the manufacturer or importer applying for the exemption has not attempted in good faith in the first instance to ensure that that particular model of motor vehicle complies with each safety standard applicable to it.

Idem

(4) Where a manufacturer or importer applies for an exemption under paragraph (1)(a), an exemption shall not be granted if

(a) the world production of motor vehicles by the manufacturer exceeds ten thousand motor vehicles per year; or

(b) the total number of motor vehicles manufactured for or imported into the Canadian market by the manufacturer or importer exceeds one thousand motor vehicles per year.

Limitation

(5) Where an exemption is granted under paragraph (1)(b) or (c), the exemption shall be limited in application to one thousand units of the particular model of motor vehicle mentioned in the application for exemption.

Regulations respecting exemptions

11. The Governor in Council may, by regulation,

(a) prescribe the form and manner in which applications for exemption may be submitted;

(b) require applications for exemption to be supported by technical and financial information in the prescribed form and manner; and

(c) require that there be marked on each exempt motor vehicle in the prescribed form and manner and on the prescribed place the features of that motor vehicle that are not in compliance with the prescribed safety standards.

Research and Testing

Powers of Minister

12. The Minister may

(a) undertake research and development programs for the promotion of road safety and the study of the impact that motor vehicles, drivers of motor vehicles and streets and highways have on road safety, energy conservation and the environment;

(b) establish and operate test facilities for motor vehicles, motor vehicle components and motor vehicle tires;

(c) make the facilities referred to in paragraph (b) and all related materials, parts and services available to any person for the examination and testing of motor vehicles, motor vehicle components and motor vehicle tires, for driver training or for any purpose that is in the interest of the promotion of road safety, energy conservation, the protection of the environment or the improvement of the quality, durability or safety of the product tested; and

(d) publish or otherwise make public any information obtained with respect to the programs and facilities referred to in paragraphs (a) and (b) and any research or testing results.

PART II
ADMINISTRATION

Enforcement

Inspectors

13. (1) The Minister may designate as an inspector for the purposes of this Act any person who, in his opinion, is qualified to be so designated.

Certificate to be produced

(2) The Minister shall furnish every inspector with a certificate of his designation as an inspector and on entering any place described in subsection 14(1) an inspector shall, if so required, produce the certificate to the person in charge of that place.

Powers of inspectors

14. (1) An inspector may at any reasonable time enter any place in which he believes on reasonable grounds there is any motor vehicle of a class for which safety standards have been prescribed under section 4 or 7 and that is owned by or situated on the premises of any manufacturer, distributor, importer or consignee of imported vehicles, or any motor vehicle component that is to be used in the manufacture of a motor vehicle of such a class, and may

(a) examine any motor vehicle or motor vehicle component found in that place;

(b) open and examine any package found therein that he believes on reasonable grounds contains any motor vehicle component; and

(c) require any person to produce for inspection any books, reports, test data, control records, shipping bills and bills of lading or other documents or papers that he believes on reasonable grounds contain any information relevant to the enforcement of this Act and make copies thereof or extracts therefrom.

Assistance to inspectors

(2) The owner or person in charge of a place entered by an inspector pursuant to subsection (1) and every person found

therein shall give the inspector all reasonable assistance to enable the inspector to carry out his duties and functions under this Act and shall furnish the inspector with any information he may reasonably require with respect to the administration of this Act and the regulations.

Obstruction of inspectors

15. (1) No person shall obstruct or hinder an inspector in carrying out his duties or functions under this Act.

False statements

(2) No person shall knowingly make any false or misleading statement, either orally or in writing, to any inspector engaged in carrying out his duties or functions under this Act or the regulations.

Interference with seized motor vehicles

(3) Except with the authority of an inspector, no person shall remove, alter or interfere in any way with any motor vehicle or motor vehicle component seized under this Act by an inspector.

Seizure

16. (1) Where an inspector believes on reasonable grounds that this Act or the regulations have been contravened, he may seize any motor vehicle or motor vehicle component described in subsection 14(1) by means of or in relation to which he believes on reasonable grounds the contravention was committed.

Detention

(2) A motor vehicle or motor vehicle component seized pursuant to subsection (1) shall not be detained after

(a) the provisions of any regulations made under section 4 or 7 that are applicable to that vehicle have, in the opinion of the inspector, been complied with, or

(b) the expiration of ninety days from the day of seizure or such longer period as may be prescribed with respect to any motor vehicle or motor vehicle component,

unless before that time proceedings have been instituted in respect of the contravention, in which event the motor

vehicle or motor vehicle component may be detained until the proceedings are finally concluded.

Forfeiture

17. (1) Where a person has been convicted of an offence under this Act, any motor vehicle or motor vehicle component by means of or in relation to which the offence was committed is, on conviction, in addition to any punishment imposed for the offence, forfeited to Her Majesty if forfeiture is directed by the court.

Protection of persons claiming interest

(2) The provisions of sections 74 to 76 of the Fisheries Act apply with such modifications as the circumstances require to any motor vehicle or motor vehicle component forfeited under subsection (1) as though that vehicle or component were a vehicle forfeited under subsection 72(1) of that Act.

Regulations

Regulations

18. The Governor in Council may make regulations

(a) respecting the detention of motor vehicles and motor vehicle components seized under section 16 and for preserving or safeguarding any vehicles or components so detained;

(b) respecting the disposition of motor vehicles and motor vehicle components forfeited under section 17;

(c) subject to sections 4 and 7, prescribing or providing for anything that by this Act is to be prescribed or provided for by the regulations;

(d) authorizing the Minister to determine, by order, the fees to be charged for the provision of any facility or service made available under paragraph 12(c) and the manner of calculating the price payable for any material or part made available for the conduct of tests or for any other purpose under that paragraph; and

(e) generally, for carrying out the purposes and provisions of this Act.

Offences and Punishment

Offence

19. Every person who, or whose employee or agent, contravenes subsection 4(2), paragraph 11(c) or any provision of section 14 or 15 is guilty of an offence.

Offences and punishment

20. (1) Every person who is guilty of an offence under subsection 8(1) or section 19 is liable

(a) on summary conviction,

(i) if a corporation, to a fine not exceeding five thousand dollars, and

(ii) if an individual, to a fine not exceeding one thousand dollars or to imprisonment for a term not exceeding six months or to both; or

(b) on conviction on indictment,

(i) if a corporation, to a fine not exceeding one hundred thousand dollars, or

(ii) if an individual, to a fine not exceeding five thousand dollars or to imprisonment for a term not exceeding two years or to both.

Idem

(2) Every manufacturer or distributor who, or whose employee or agent, contravenes section 5 or 6 is guilty of an offence and liable

(a) on summary conviction, to a fine not exceeding ten thousand dollars; or

(b) on conviction on indictment, to a fine not exceeding two hundred thousand dollars.

Defence

(3) In a prosecution under subsection (2), it is a defence for an accused manufacturer who is engaged in the process of assembling or altering motor vehicles to show that the

offence occurred as a result of prior work done on a motor vehicle by another manufacturer.

Offence and punishment

(4) Every person who, or whose employee or agent, contravenes subsection 7(2) is guilty of an offence and liable

(a) on summary conviction

(i) if an importer, to a fine not exceeding ten thousand dollars,

(ii) if a person other than an importer, to a fine not exceeding one thousand dollars or to imprisonment for a term not exceeding six months or to both; or

(b) on conviction on indictment,

(i) if an importer, to a fine not exceeding two hundred thousand dollars, or

(ii) if a person other than an importer, to a fine not exceeding five thousand dollars or to imprisonment for a term not exceeding two years or to both.

Idem

(5) Every person who, or whose employee or agent, uses any mark or designation so closely resembling a national safety mark as to be likely to be mistaken therefor in such manner that, if he had used the national safety mark, he would be guilty of an offence under this Act is guilty of the offence of which he would be guilty if he had used that mark and is liable to the punishment provided in this Act for that offence.

Offence by employee or agent

21. (1) In any prosecution for an offence under this Act, it is sufficient proof of the offence to establish that it was committed by an employee or agent of the accused, whether or not the employee or agent is identified or has been prosecuted for the offence, unless the accused establishes that the offence was committed without his knowledge or consent and that he exercised all due diligence to prevent its commission.

Limitation period

(2) Any proceedings by way of summary conviction in respect of an offence under this Act may be instituted at any time within but not later than two years after the time when the subject-matter of the proceedings arose.

Venue

(3) Any complaint or information in respect of an offence under this Act may be heard, tried or determined by a court if the accused is resident or carrying on business within the territorial jurisdiction of that court although the matter of the complaint or information did not arise in that territorial jurisdiction.

Evidence

22. In any prosecution for an offence under this Act, evidence that a motor vehicle bore a name or mark purporting to be the name or mark of a manufacturer, distributor or importer is, in the absence of any evidence to the contrary, proof that the motor vehicle was manufactured, distributed or imported, as the case may be, by that person.

Report to Parliament

Annual report

23. The Minister shall as soon as possible after the end of each year prepare and cause to be laid before Parliament a report on the administration and enforcement of this Act for that year.

MVSA

Established by the Revised Statutes of Canada, 1985.

CHAPTER M-10.

MOTOR VEHICLE SAFETY ACT

Motor Vehicle Safety Regulations

REGULATIONS RESPECTING SAFETY FOR
MOTOR VEHICLES AND MOTOR
VEHICLE COMPONENTS

Short Title

1. These Regulations may be cited as the Motor Vehicle Safety Regulations.

Interpretation

2. (1) In these Regulations,

“accessory mass” means the total mass of the stock optional items with which a vehicle is capable of being equipped minus the total mass of the standard items that those optional items replace; (masse des accessoires)

“Act” means the Motor Vehicle Safety Act; (Loi)

“adjacent seat” means a designated seating position so located that a portion of its occupant space is, for a distance of 15 inches, (38.1 cm) horizontal and parallel to an emergency exit and at a distance of not more than 10 inches (25.4 cm) therefrom; (siège adjacent)

“air brake system” means a system that uses air as a medium for transmitting pressure or force from the driver control to the service brake, but does not include a system that uses compressed air or vacuum only to assist the driver in applying muscular force to hydraulic or mechanical components; (système de freinage à air comprimé)

“all-terrain vehicle” means a wheeled or tracked vehicle, other than a snowmobile or work vehicle, designed primarily for recreational use or for the transportation of property or equipment exclusively on undeveloped road rights of way, marshland, open country or other unprepared surfaces; (véhicule tout terrain)

“ambient temperature” means the surrounding air temperature measured at such a distance from a vehicle under test that the temperature is not significantly affected by heat from the vehicle; (température ambiante)

“ANS Z26” means American National Standard Z26.1-1983 Safety Code for Safety Glazing Materials for Glazing Motor

Vehicles Operating on Land Highways, (August 15, 1983);
(ANS Z26)

'anthropomorphic test device' means, except in section 202 of Schedule IV, a representation of a human being used in the measurement of the conditions that a human being would experience in a vehicle when the vehicle is subjected to approved test methods; (dispositif anthropomorphe d'essai)

'antilock system' means a portion of a service brake system of a vehicle that automatically controls the degree of rotational wheel slip of one or more road wheels of the vehicle during braking; (dispositif antidérapant)

'antique reproduction vehicle' means a vehicle that is designed to be a scaled reproduction of an antique vehicle and

(a) may contain contemporary design components,

(b) has a motor that produces 8 kW (10.73 bhp) or less,

(c) is intended for use exclusively in parades, exhibitions and demonstrations, and

(d) bears a label, permanently affixed in a conspicuous position, stating that the vehicle is not to be used for public transportation, but is intended for use in parades, exhibitions and demonstrations;

(réplique d'ancien modèle)

'antique vehicle' means a vehicle more than 30 years old that, when restored to a condition comparable to that on the date of its manufacture, retains the original components or incorporates replacement components with original design characteristics; (ancien modèle)

'approved' means approved by the Minister; (approuvé)

'armour' means, for the purposes of section 106, a protective material installed on a brake hose to increase the resistance of the hose or hose assembly to abrasion or impact damage; (armure)

'assembler' means a manufacturer engaged in the business of altering vehicles that bear the national safety mark; (monteur)

'auto transporter' means a truck and a trailer designed for use in combination to transport motor vehicles where

the truck is designed to carry cargo other than at the fifth wheel and that cargo is to be loaded only by means of the trailer; (porte-autos)

“backup system” means a portion of a service brake system of a vehicle, such as a pump, that supplies energy in the event of a primary brake power source failure; (système de secours)

“battery charging indicator” means a device showing whether the battery is being charged or discharged; (indicateur de charge)

“battery charging tell-tale” means a signal that, when alight, indicates that the battery is not being charged; (témoin de charge)

“blister” means, for the purposes of section 116 of Schedule IV, a cavity or sac on the surface of a brake cup; (ampoule)

“body type” means the general configuration or shape of a vehicle distinguished by the number of doors or windows, cargo carrying features, the roofline (e.g., sedan, fastback, hatchback) or other characteristics; (type de carrosserie)

“bonded construction sealed beam headlamp” means, for the purposes of sections 108 and 108.1 of Schedule IV, a sealed beam headlamp in which the lens and reflector are bonded together adhesively or mechanically in the manufacturing process and may be constructed of different materials; (projecteur scellé assemblé par collage)

“booster cushion” means a device for use in a motor vehicle for the purpose of seating a child in an elevated position on the vehicle seat in order to adapt an adult seat belt assembly of the motor vehicle to the child; (coussin d'appoint)

“brake fluid” means brake fluid for use in hydraulic brake systems, except hydraulic system mineral oil; (liquide pour freins)

“brake hose” means a flexible conduit, other than a vacuum tubing connector, manufactured for use in a brake system to transmit or contain the fluid pressure or vacuum used to apply force to a vehicle's brakes; (boyau de frein)

“brake hose assembly” means a brake hose, with or without armour, equipped with brake hose end fittings for use in a brake system, but does not include an air or vacuum

assembly prepared by the owner or operator of a used vehicle, by his employee or by a repair facility, for installation in that used vehicle; (ensemble de boyau de frein)

“brake hose end fitting” means a coupler, other than a clamp, designed to be attached to the end of a brake hose; (raccord d'extrémité de boyau de frein)

“brake power assist unit” means a device installed in a hydraulic brake system of a vehicle that reduces the effort required by the operator to actuate the system, and that if inoperative does not prevent the operator from braking the vehicle by a continued application of muscular force on the service brake control; (unité d'assistance de frein)

“brake power unit” means a device installed in a brake system of a vehicle that provides the energy required to actuate the brakes, either directly or indirectly, through an auxiliary device, with the operator action consisting only of modulating the energy application level; (unité de servo-frein)

“braking interval” means the distance measured from the point of initiation of one brake application to the point of initiation of the next brake application; (intervalle de freinage)

“bus” means a vehicle having a designated seating capacity of more than 10, but does not include a trailer; (autobus)

“bus trailer” means a vehicle having a designated seating capacity of more than 10 and designed primarily to be drawn behind another vehicle; (remorque-autobus)

“cable reel trailer” means a vehicle designed to be drawn behind another vehicle for the exclusive purpose of carrying a drum or reel of cable; (chariot dérouleur)

“chassis-cab” means a vehicle consisting of a chassis that is capable of being driven, drawn or self-propelled, upon which may be mounted a cab, and that is designed to receive

(a) a passenger-carrying or cargo-carrying body including a body that incorporates a prime mover, or

(b) a work performing structure other than a fifth-wheel coupling;

(châssis)

“check digit” means a single number or the letter ‘X’ used to verify the accuracy of the transcription of the vehicle identification number; (unité de contrôle)

“child” means a person whose mass is between 9 kg (20 pounds) and 22 kg (48 pounds) inclusive; (enfant)

“child restraint system” means any device, except type 1 or type 2 seat belts, designed for use in a motor vehicle to restrain a child; (ensemble de retenue d’enfant)

“chipping” means, for the purposes of section 116 of Schedule IV, a condition in which small pieces are missing from the outer surface of a brake cup; (ébréchée)

“CMVSS” is an abbreviation for Canada Motor Vehicle Safety Standard; (NSVAC)

“competition car” means a four-wheeled vehicle designed for use exclusively on racing circuits; (voiture de compétition)

“competition motorcycle” means a restricted-use motorcycle that is designed and marketed for use exclusively in closed course competition and bears a label, permanently affixed in a conspicuous position, stating that the vehicle is a competition motorcycle and is for use exclusively in closed course competition and is not intended for use on public highways; (motocyclette de compétition)

“competition snowmobile” means a snowmobile that is designed and marketed for use exclusively in closed course competition and bears a label, permanently affixed in a conspicuous position, stating that the vehicle is a competition snowmobile and is for use exclusively in closed course competition and is not intended for use on trails; (motoneige de compétition)

“compressed natural gas” or “CNG” means natural gas, composed predominantly of methane, compressed at pressures up to 20,680 kPa (3,000 psi); (gaz naturel comprimé or GNC)

“contactable surface” means, for the purpose of section 213.1, any infant restraint system surface, other than that of a belt, belt buckle or adjustment hardware, that may contact any part of the head or torso of an anthropomorphic test device when the system is dynamically tested; (surface de contact)

- “control” means the part of a device that enables the driver to bring about a change in the state or functioning of a vehicle or vehicle component; (commande)
- “CSA” means the Canadian Standards Association; (CSA)
- “curb mass” means the mass of a vehicle with standard equipment and carrying its maximum capacity of fuel, oil and coolant and includes the mass of any air-conditioning equipment on the vehicle and the amount by which the mass of any optional engine with which the vehicle is equipped exceeds the mass of the standard engine; (masse à vide)
- “curb weight” means the weight of a vehicle with standard equipment and carrying its maximum capacity of fuel, oil and coolant and includes the weight of any air-conditioning equipment on the vehicle and the amount by which the weight of any optional engine with which the vehicle is equipped exceeds the weight of the standard engine; (poids à vide)
- “daytime running lamp” means, for the purposes of section 108 of Schedule IV, a lamp used to improve the visibility of a vehicle when the vehicle is viewed from the front in daylight; (feu de jour)
- “demountable rim” means a supporting member for a tire or tire and tube assembly, that does not have a permanently attached centre component; (jante amovible)
- “designated seating capacity” means, with reference to a vehicle, the number of designated seating positions provided in that vehicle; (nombre désigné de places assises)
- “designated seating position” means any plan view position capable of accommodating a person at least as large as a 5th percentile adult female, as defined in section 100 of Schedule IV, where the overall seat configuration and design and the vehicle design are such that the position is likely to be used as a seating position while the vehicle is in motion, but does not include any plan view position of temporary or folding jump seats or other auxiliary seating accommodation; (place assise désignée)
- “disc wheel” means a supporting member for a tire or tire and tube assembly, comprising a rim with a dish shaped component that is permanently attached to the inner circumference of the rim; (roue à disque)

- “distributor” means a person engaged in the business of selling to other persons, for the purpose of resale, vehicles manufactured in Canada and obtained directly from a manufacturer or his agent; (distributeur)
- “driver” means the occupant of a vehicle seated immediately behind the steering control system; (conducteur)
- “driver-operated accelerator control system” means all components of a vehicle, except the fuel metering device, that regulate engine speed in direct response to movement of the driver-operated control and that return the throttle to the idle position upon release of the driver-operated control; (système de commande d'accélération actionné par le conducteur)
- “ECE” means the United Nations Economic Commission for Europe, Inland Transport Committee; (CEE)
- “emergency brake” means a mechanism designed to stop a vehicle after a failure of the service brake system; (frein de secours)
- “engine coolant temperature indicator” means a device that presents information concerning the temperature of the coolant; (indicateur de température du liquide de refroidissement)
- “engine coolant temperature tell-tale” means a signal that, when alight, indicates that the temperature of the engine coolant is above the normal engine running temperature prescribed by the manufacturer; (témoin de température du liquide de refroidissement)
- “engine type” means a power source distinguished by the fuel utilized, number of cylinders, displacement, net brake horsepower or other characteristics; (type de moteur)
- “ERBP” means, for the purposes of section 116 of Schedule IV, equilibrium reflux boiling point; (ERBP)
- “forward control configuration” means a configuration in which more than half of the engine length is rearward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter of the vehicle length; (type à cabine avancée)
- “free length” means, for the purposes of section 106, the linear measurement of brake hose in a straight position

exposed between the brake hose end fittings of a brake hose assembly; (longueur libre)

"fuel level indicator" means a device that presents information concerning the amount of fuel in the tank; (indicateur de niveau de carburant)

"fuel level tell-tale" means a signal that, when alight, indicates that the fuel level is close to zero or that the vehicle is running on its fuel reserve; (témoin de niveau de carburant)

"fuel metering device" means the carburetor, fuel injector, fuel distributor or fuel injection pump; (dispositif de dosage du carburant)

"fuel spillage" means the fall, flow or run of fuel from a vehicle but does not include wetness resulting from capillary action; (écoulement de carburant)

"grade" means, for the purposes of section 116 of Schedule IV, a classification of brake fluid on the basis of its physical and chemical properties; (catégorie)

"gross axle weight rating" or "GAWR" means the value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces; (poids nominal brut sur l'essieu or PNBE)

"gross vehicle weight rating" or "GVWR" means the value specified by the vehicle manufacturer as the loaded weight of a single vehicle; (poids nominal brut du véhicule or PNBV)

"headlamp" means, for the purposes of sections 108 and 108.1 of Schedule IV, a lamp used to illuminate the road and objects on the road ahead of the vehicle, but does not include a fog lamp or a supplementary driving lamp; (projecteur)

"heavy duty vehicle" means

(a) a bus,

(b) a chassis-cab,

(c) a multipurpose passenger vehicle, or

(d) a truck

having a gross vehicle weight rating of more than 6,000 pounds (2 721.6 kg) but does not include a passenger car; (véhicule lourd)

“heavy hauler trailer” means a trailer that has

(a) brake lines designed to adapt to separation or extension of the vehicle frame, or

(b) a body that consists of only a platform the primary cargo-carrying surface of which is not more than 101.6 cm (40 inches) above the ground in an unloaded condition, but may include sides that are designed for easy removal and a permanent front end structure;

(remorque lourde)

“hub” means a rotating member that provides for mounting of disc wheels; (moyeu)

“hydraulic brake system” means a system that uses hydraulic fluid as a medium for transmitting force from a service brake control to the service brake, and that may incorporate a brake power assist unit or a brake power unit; (système de freinage hydraulique)

“hydraulic system mineral oil” means a mineral-oil-based fluid designed for use in motor vehicle brake systems in which none of the components contacting the fluid are SBR, EPDM, neoprene or natural rubber; (huile minérale pour système hydraulique)

“idle position” means the position of the throttle at which it first comes in contact with an engine idle speed control appropriate for existing conditions according to the manufacturers’ recommendations respecting engine speed adjustments for a cold engine, air conditioning, emission control and throttle setting devices; (position de ralenti)

“importer” means a person engaged in the business of importing vehicles into Canada; (importateur)

“indicator” means a device that presents current information on the functioning of a system or a part of a system; (indicateur)

“infant” means a person incapable of sitting erect and whose mass is less than 9 kg (20 pounds); (bébé)

“infant restraint system” means a system designed to transport an infant in a vehicle; (ensemble de retenue de bébé)

“information readout display” means a display using light emitting diodes, liquid crystals or other electro-illuminating devices where one or more than one type of information or message may be displayed by word or symbol; (tableau lumineux)

“initial brake temperature” means the average temperature of the service brakes on the hottest axle of the vehicle 322 m (0.2 mile) before any brake application; (température initiale des freins)

“inspector” means a person designated by the Minister pursuant to section 10 of the Act; (inspecteur)

“IRHD” means International Rubber Hardness Degrees as referred to in ASTM D1415-1968, Standard Test Method of International Hardness of Vulcanized Natural and Synthetic Rubbers; (IRHD)

“leaded gasoline” means gasoline that contains more than

(a) 0.06 grams of lead per Imperial gallon (0.013 grams per litre), or

(b) 0.006 grams of phosphorous per Imperial gallon (0.0013 grams per litre);

(essence au plomb)

“light duty vehicle” means

(a) a passenger car, or

(b) any other vehicle having a gross vehicle weight rating of 6,000 pounds (2 721.6 kg) or less

but does not include an off-road utility vehicle; (véhicule léger)

“lightly loaded vehicle weight” means

(a) for vehicles with a GVWR of 4 536 kg (10,000 pounds) or less, unloaded vehicle weight plus 181.5 kg (400 pounds) (including driver and instrumentation), or

(b) for vehicles with a GVWR greater than 4 536 kg (10,000 pounds), unloaded vehicle weight plus 226.8 kg (500 pounds) (including driver and instrumentation);

(poids du véhicule avec charge légère)

“limited-speed motorcycle” means a motorcycle that has a maximum attainable speed of 70 km/h or less, measured in accordance with International Organization for Standardization standard ISO 7117-1981, Road vehicles - measurement method for the maximum speed of motorcycles; (motocyclette à vitesse limitée)

“line” means the name that a manufacturer applies to a family of vehicles within a make that have a degree of commonality of body, chassis, cab type or other features of construction; (ligne)

“liquefied petroleum gas” or “LPG” means a hydrocarbon product that meets the Canadian General Standards Board standard number CAN 2-3.14-M78; (gaz de pétrole liquéfié or GPL)

“load divider dolly” means a trailer that is composed of a trailer chassis equipped with one or more axles, has no solid bed, body or container attached and is designed exclusively to support a portion of the load on a trailer or truck that is exempted from all the requirements of section 121 of Schedule D; (chariot de répartition de charge)

“make” means the name that a manufacturer applies to a group of vehicles; (marque)

“manufacturer” means a person engaged in the business of manufacturing vehicles; (fabricant)

“master lighting switch” means a switch with one or more operational positions that controls the tail lamps, parking lamp, licence plate lamp, side marker lamps and headlamps and may control identification lamps and clearance lamps; (commutateur général d’éclairage)

“maximum load” means, for the purpose of section 110, the portion of the mass of a vehicle that

(a) is borne by each tire when

(i) the tire is installed on the vehicle, and

(ii) the vehicle is at its maximum loaded vehicle mass and is resting on a horizontal plane, and

(b) is calculated by distributing to each axle its share of the maximum loaded vehicle mass and dividing that share by two;

(charge maximale)

“maximum loaded vehicle mass” means, for the purpose of section 110, the sum of

- (a) the curb mass,
- (b) the accessory mass,
- (c) the vehicle capacity mass, and
- (d) the production options mass;

(masse maximale de véhicule chargé)

“Minister” means the Minister of Transport; (Ministre)

“mobile home” means a vehicle that is more than 102 inches in overall width and that is designed to be drawn behind another vehicle and to be used as a living or working accommodation unit; (maison roulante)

“model” means the name that a manufacturer applies to a family of vehicles of the same class, make, line, series and body type; (modèle)

“model year” means the year used to designate a discrete vehicle model irrespective of the calendar year in which the vehicle was actually produced, so long as the period of such production is less than two years; (année de modèle)

“motorcycle” means a vehicle other than a restricted-use motorcycle, passenger car, truck or multipurpose passenger vehicle that

- (a) has steering handlebars completely constrained from rotating in relation to the axle of one wheel in contact with the ground,

- (b) is designed to travel on not more than three wheels in contact with the ground,

- (c) has a minimum seat height, when the vehicle is unladen, of 650 mm,

- (d) has a minimum wheel rim diameter of 250 mm,

- (e) has a minimum wheelbase of 1 016 mm, and

- (f) does not have as an integral part of the vehicle a structure to enclose the driver and passenger, other

than that part of the vehicle forward of the driver's torso and a seat backrest;

(motocyclette)

"motor home" means a multipurpose passenger vehicle that provides living accommodation for persons; (roulotte-automobile)

"multipurpose passenger vehicle" means a vehicle having a designated seating capacity of 10 or less that is constructed either on a truck-chassis or with special features for occasional off-road operation, but does not include an air cushion vehicle, all-terrain vehicle, golf-cart, passenger car or truck; (véhicule de tourisme à usages multiples)

"normal load" of a tire means, for the purpose of section 110, the portion of the mass of a vehicle that

(a) is borne by each tire when

(i) the tire is installed on the vehicle,

(ii) the vehicle is at a mass equal to the sum of the curb mass, the accessory mass and the normal occupants' mass and the vehicle is resting on a horizontal plane, and

(iii) the normal occupants' mass is distributed in the vehicle in accordance with Table I to section 110, and

(b) is calculated by

(i) distributing to each axle its share of the aggregate of the masses referred to in subparagraph (a)(ii), and

(ii) dividing that share by two;

(charge normale)

"normal occupants' mass" means 70 kg (150 pounds) multiplied by the number of occupants specified in Column II of Table I to section 110; (masse normale des occupants)

"occupant" means a person or manikin seated in a vehicle and unless otherwise specified means a person or manikin having the dimensions and weight of a 95th percentile adult male, as defined in section 100 of Schedule IV; (occupant)

"occupant compartment air space" means the space within an occupant compartment that normally contains refreshable air; (espace d'air de l'habitacle)

"occupant distribution" means the distribution of occupants in a vehicle in a manner specified in Column III of Table I to section 110; (répartition des occupants)

"occupant space" means the space directly above the seat and footwell, bounded vertically by the ceiling and horizontally by the normally positioned seat back and the nearest obstruction of occupant motion in the direction the seat faces; (espace d'occupant)

"oil pressure indicator" means a device that presents information concerning the pressure of the oil in the engine lubrication circuit; (indicateur de pression d'huile)

"oil pressure tell-tale" means a signal that, when alight, indicates that the oil pressure in the engine lubrication circuit is below the normal operating limit prescribed by the manufacturer; (témoin de pression d'huile)

"on-highway vehicle" means, for the purposes of section 121, a truck or trailer primarily designed for operation on a public highway; (véhicule routier)

"on-off-highway vehicle" means, for the purposes of section 121, a truck or trailer primarily designed for operation on a public highway with special features for off-highway operation; (véhicule route-chantier)

"optically combined lamps" means, for the purposes of section 108 of Schedule IV, lamps that have

(a) two or more separate light sources or a single light source that operates in different ways,

(b) one lens totally or partly in common, and

(c) a common lamp body;

(feux combinés optiquement)

"optional item" means automatic transmission, power steering, power brakes, power windows, power seats, a radio or heater; (articles facultatifs)

"overall width" means the nominal design dimension of the widest part of the vehicle with doors and windows closed and wheels in the straight ahead position, exclusive of

signal lamps, marker lamps, outside rearview mirrors, flexible fender extensions and mud flaps; (largeur hors tout)

“parking brake” means a mechanism designed to prevent the movement of a stationary vehicle; (frein de stationnement)

“parking mechanism” means a component or subsystem of the drive train that locks the drive train when the transmission control is placed in a parking or other gear position and the ignition key is removed; (dispositif de stationnement)

“passenger car” means a vehicle having a designated seating capacity of 10 or less, but does not include an all-terrain vehicle, competition car, multipurpose passenger vehicle, antique reproduction vehicle, motorcycle, truck or trailer; (voiture de tourisme)

“passive occupant protection” means protection of an occupant of a vehicle against injury due solely to a crash impact by means of equipment that does not require any direct action by an occupant of the vehicle upon the equipment itself; (protection passive de l’occupant)

“passive restraint system” means a system meeting the occupant crash protection requirements of section 208 of Schedule IV by means that require no action by a vehicle occupant; (système de retenue passive)

“permanently attached hose end fitting” means a brake hose end fitting that is

(a) permanently attached to a brake hose by deformation of the fitting about the hose by crimping or swaging, or

(b) attached to a brake hose by use of a sacrificial sleeve or ferrule that requires replacement each time a brake hose assembly is rebuilt;

(raccord d’extrémité de boyau fixé en permanence)

“plant of manufacture” means the plant at which the manufacturer affixes the vehicle identification number; (usine de construction)

“pole trailer” means a vehicle designed to be drawn behind another vehicle by means of a reach or pole, or by being boomed or otherwise secured to the towing vehicle, for the purpose of transporting poles, pipes, structural members or other long or irregularly shaped loads capable

generally of sustaining themselves as beams between the supporting connections; (remorque pour charges longues)

“prescribed class” means a class of vehicle listed in Schedule III; (catégorie prescrite)

“prime glazing material manufacturer” means a person engaged in the business of fabricating, laminating or tempering glazing material; (fabricant de vitrages)

“production options mass” means the combined mass of all installed regular optional items with a mass of over 2.3 kg (5 pounds) in excess of the standard items that those optional items replace and that is not included in the curb mass or accessory mass, including heavy duty brakes, ride levellers, roof rack, heavy duty battery and special trim; (masse des articles facultatifs de production courante)

“push-out window” means a vehicle window designed to open outward to provide for emergency egress; (fenêtre basculante)

“readily removable window” means a window that can be quickly and completely removed from a vehicle without tools and, in the case of a bus having a GVWR of more than 4 535.9 kg (10,000 pounds), shall include a push-out window and a window mounted in an emergency exit that can be manually pushed out of its location in the vehicle without the use of tools, regardless of whether the window remains hinged at one side to the vehicle; (fenêtre amovible)

“replaceable bulb headlamp” means, for the purposes of sections 108 and 108.1 of Schedule IV, a headlamp incorporating a replaceable bulb (light source) that is designed in such a manner that it may be replaced without separating the lens from the reflector; (projecteur à ampoule remplaçable)

“restricted-use motorcycle” means a vehicle, including an all-terrain vehicle designed primarily for recreational use, that

(a) has steering handlebars,

(b) is designed to travel on not more than four wheels in contact with the ground,

(c) does not have as an integral part of the vehicle a structure to enclose the driver and passenger, other

than that part of the vehicle forward of the driver's torso and a seat backrest, and

(d) bears a label, permanently affixed in a conspicuous position, stating that the vehicle is a restricted-use motorcycle or an all-terrain vehicle and is not intended for use on public highways;

(motocyclette à usage restreint)

"rim base" means that portion of a rim remaining after removal of all split or continuous rim flanges, side rings, and locking rings that can be detached from the rim; (base de jante)

"rim diameter" means the nominal diameter of the bead seat; (diamètre de jante)

"rim size designation" means the rim diameter and width; (désignation des dimensions de jante)

"rim type designation" means the industry or manufacturer's designation for a rim by style or code; (désignation du type de jante)

"rim width" means the nominal distance between rim flanges; (largeur de jante)

"rupture" means, for the purposes of section 106, any failure that results in the separation of a brake hose from its brake hose end fitting or in leakage; (rupture)

"SAE" means the Society of Automotive Engineers, Inc.; (SAE)

"school bus" means a bus designed or equipped primarily to carry students to and from school; (autobus scolaire)

"scuffing" means, for the purposes of section 116 of Schedule IV, a visible erosion of a portion of the outer surface of a brake cup; (éraflure)

"sealed beam headlamp" means, for the purposes of sections 108 and 108.1 of Schedule IV, a headlamp comprising a reflector, a lens and one or more light sources, forming an integral whole which is indivisibly formed and cannot be dismantled without rendering the unit completely unusable; (projecteur scellé)

"seat belt anchorage" means a device for transferring seat belt assembly loads to the vehicle structure; (ancrages des ceintures de sécurité)

“seat belt assembly” means any strap, webbing or similar device designed to secure a person in a vehicle in order to mitigate the results of any accident and includes

(a) all necessary buckles and other fasteners and all hardware, and

(b) a belt assembly that provides passive occupant protection to the user thereof;

(ceinture de sécurité)

“seating reference point” means the manufacturer’s design reference point that

(a) establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle,

(b) has coordinates established relative to the designed vehicle structure,

(c) simulates the position of the pivot centre of the human torso and thigh, and

(d) is the reference point employed to position the two dimensional templates described in SAE Recommended Practice J826 Manikins For Use In Defining Vehicle Seating Accommodation (November 1962);

(point de référence de position assise)

“series” means the name that a manufacturer applies to a subdivision of a line denoting the price, size or weight identification and that is utilized by the manufacturer for marketing purposes; (série)

“seat orientation reference line (SORL)” means the horizontal line through point Z as illustrated in Fig. 1 of section 213.1; (ligne repère d’orientation du siège LROS)

“service brake” means the primary mechanism designed to stop a vehicle; (frein de service)

“sloughing” means, for the purposes of section 116 of Schedule IV, such degradation of a brake cup, evidenced by the presence of carbon black loosely held on the brake cup surface, that a visible black streak is produced when the cup, with 500 ± 10 gram deadweight applied to it, is drawn base down over a sheet of white bond paper placed on a firm flat surface; (encrassement)

- “snowmobile” means a vehicle, including a snowmobile conversion vehicle, that has a mass of not more than 450 kg, is designed primarily for travel on snow, has one or more steering skis and is driven by means of an endless belt or belts in contact with the ground; (motoneige)
- “snowmobile conversion vehicle” means a vehicle designed to be capable of conversion to a snowmobile by the repositioning or addition of parts; (véhicule convertible en motoneige)
- “snowmobile cutter” means a sleigh designed to be drawn behind a snowmobile; (traîneau de motoneige)
- “snowmobile trailer” means a trailer designed primarily for the transportation of snowmobiles or snowmobile cutters; (remorque pour motoneige)
- “snub” means the braking deceleration of a vehicle from a higher reference speed to a lower reference speed that is greater than zero; (ralentissement)
- “speed attainable in 1.6 km (1 mile)” means the speed attainable by accelerating at maximum rate from a standing start for 1.6 km (1 mile) on a level surface; (vitesse à 1.6 km (1 mille))
- “speed attainable in 3.2 km (2 miles)” means the speed attainable by accelerating at maximum rate from a standing start for 3.2 km (2 miles) on a level surface; (vitesse aux 3,2 km (2 milles))
- “spike stop” means a stop resulting from the application of 889.6 N (200 pounds) of force on the service brake control in 0.08 second; (arrêt d’urgence)
- “split service brake system” means a brake system consisting of two or more subsystems actuated by a single control designed so that a leakage-type failure of a pressure component in a single subsystem (except structural failure of a housing that is common to two or more subsystems) shall not impair the operation of any other subsystem; (système de frein de service partagé)
- “spoke wheel” means a rotating member that provides for mounting and support of demountable rims; (roue à rayons)
- “steering column” means the structural housing that surrounds a steering shaft; (colonne de direction)
- “steering control system” means the basic steering mechanism and its associated trim hardware including any

portion of a steering column assembly that provides energy absorption upon impact; (système de commande de la direction)

“steering shaft” means a component that transmits steering torque from the steering wheel to the steering gear; (arbre de direction)

“stickiness” means, for the purposes of section 116 of Schedule IV, a condition on the surface of a brake cup such that fibres will be pulled from a wad of U.S.P. absorbent cotton when the wad is drawn across the surface of the cup; (gommage)

“stopping distance” means the distance travelled by a vehicle from the point at which force is applied to the brake control to the point at which the vehicle reaches a full stop; (distance d’arrêt)

“suspension spring” means a leaf, coil, torsion bar, rubber, air bag, and every other type of spring used in vehicular suspensions; (ressort de suspension)

“tell-tale” means an optical signal that, when alight, indicates the actuation of a device, correct or defective functioning or condition, or failure to function; (témoin)

“tether belt hook” means a device, as illustrated in Figure 4 of section 213, used to attach a tether strap to tether anchorage hardware; (crochet de la sangle d’attache)

“tether strap” means a device for transferring child restraint system loads to tether anchorage hardware, fitted with a tether belt hook and secured to the rigid structure of a child restraint system; (courroie d’attache)

“throttle” means the component of the fuel metering device that

(a) connects to the driver-operated accelerator control system, and

(b) controls the engine speed;

(papillon des gaz)

“trailer” means a vehicle designed to carry or accommodate persons or property and to be drawn behind another vehicle, and includes a bus trailer, pole trailer and cable reel trailer, but does not include a mobile

home, trailer converter dolly or any earth-moving equipment or implement of farm husbandry; (remorque)

“trailer converter dolly” means a conversion chassis equipped with one or more axles, a lower half of a fifth-wheel coupling and a drawbar; (chariot de conversion)

“transparent cover” means, for the purposes of sections 108 and 108.1 of Schedule IV, a transparent component of the bodywork of a vehicle through which is directed the light output of a headlamp and which is designed to direct the flow of air around the moving vehicle or to protect the headlamp from environmental attack; (couvercle transparent)

“truck” means a vehicle designed primarily for the transportation of property or equipment, but does not include a chassis-cab, crawler-mounted vehicle, trailer, work vehicle or a vehicle designed for operation exclusively off the public highway; (camion)

“truck tractor” means a truck designed primarily for drawing other vehicles and not constructed for carrying any load other than a part of the weight of the vehicle and load drawn, and includes a vehicle designed to accept a fifth-wheel coupling but does not include a crane-equipped breakdown vehicle; (camion-tracteur)

“type 1 headlamp” means, for the purposes of sections 108 and 108.1 of Schedule IV, a headlamp with one filament; (projecteur de type 1)

“type 2 headlamp” means, for the purposes of sections 108 and 108.1 of Schedule IV, a headlamp with two filaments; (projecteur de type 2)

“unit magnification mirror” means a plane or flat mirror with a reflective surface through which the angular height and width of the image of an object is equal to the angular height and width of the object when viewed directly at the same distance except for flaws that do not exceed normal manufacturing tolerances and includes a prismatic day-night adjustment rearview mirror that provides unit magnification in one of its positions; (miroir plan)

“unleaded gasoline” means gasoline that contains not more than

(a) 0.06 grams of lead per Imperial gallon (0.013 grams per litre), or

(b) 0.006 grams of phosphorous per Imperial gallon (0.0013 grams per litre);

(essence sans plomb)

“unloaded vehicle mass” means the mass of a vehicle equipped with the containers for the fluids necessary for the operation of the vehicle filled to their maximum capacity but without cargo or occupants; (masse du véhicule sans charge)

“unloaded vehicle weight” means the weight of a vehicle equipped with the containers for the fluids necessary for the operation of the vehicle filled to their maximum capacity, but without cargo or occupants; (poids du véhicule sans charge)

“vacuum tubing connector” means, for the purposes of section 106, a flexible conduit that

(a) connects metal or rigid plastic tubing to metal or rigid plastic tubing for use in a vacuum brake system,

(b) is attached without brake hose end fittings, and

(c) when installed, has an unsupported length less than the total length of those portions that cover the metal or rigid plastic tubing in a brake system;

(raccord de canalisation à vide)

“variable proportioning brake system” means a system that automatically adjusts the braking force at the axles to compensate for vehicle static axle loading or dynamic weight transfer between axles during deceleration, or both; (compensateur de freinage)

“vehicle” means a motor vehicle; (véhicule)

“vehicle capacity mass” means the rated cargo and luggage mass plus 70 kg (150 pounds) multiplied by the designated seating capacity; (charge maximale du véhicule)

“vehicle fuel tank capacity” means

(a) the volume of fuel left at the bottom of the tank when the fuel pump of the vehicle can no longer draw fuel from the tank

plus

(b) the volume of fuel that can be pumped into the tank through the filler pipe when the vehicle is on a level surface and the volume of fuel referred to in paragraph (a) is already in the tank,

except that the volume of fuel referred to in paragraph (b) does not include any volume of fuel that can be pumped into the fuel tank filler neck or into the space above the fuel tank filler neck; (capacité du réservoir de carburant du véhicule)

“vehicle identification number” means a number consisting of arabic numerals, roman letters, or both that the manufacturer assigns to the vehicle for identification purposes; (numéro d'identification du véhicule)

“weather side” means the surface area of a rim not covered by the inflated tire; (surface exposée aux intempéries)

“wet ERBP” means the equilibrium reflux boiling point of the brake fluid after it has been humidified under controlled conditions; (ERBP humide)

“work vehicle” means a vehicle designed primarily for the performance of work in the construction of works of civil engineering and in maintenance, that is not constructed on a truck-chassis or truck-type chassis, but does not include a tractor or any vehicle designed primarily to be drawn behind another vehicle. (véhicule de travail)

(2) In the case of any bench or split-bench seat having more than 1 270 mm (50 inches) of hip room, measured in accordance with SAE Standard J1100(a) Motor Vehicle Dimensions (Sept. 1975), in a passenger car, truck or multipurpose passenger vehicle having a GVWR of less than 4 500 kg (10,000 lbs.), the seat shall be deemed to contain not less than three designated seating positions, unless the seat design or vehicle design is such that the centre position is not capable of being used as a seating position.

2.1 Where, for the purposes of the application of a section of these Regulations to a vehicle, a manufacturer or importer uses one of the systems of measurement set out in these Regulations, he shall not thereafter use the other system of measurement set out in these Regulations for the purposes of the application of that section to that vehicle.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/78-257 20 March, 1978 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1981

Section 2 by adding the definitions "battery charging indicator", "battery charging tell-tale", "control", "engine coolant temperature indicator", "engine coolant temperature tell-tale", "fuel level indicator", "fuel level tell-tale", "indicator", "master lighting switch", "oil pressure indicator", "oil pressure tell-tale" and "tell-tale".

SOR/78-351 17 April, 1978 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definition "load divider dolly".

SOR/78-525 16 June, 1978 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective August 1, 1978

Section 2 by adding the definition "occupant compartment air space".

SOR/79-263 16 March, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding section 2.1.

SOR/79-306 30 March, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective April 1, 1980

Section 2 by adding the definition "moped" and the definitions "motorcycle" and "motor driven cycle" in section 2.

SOR/79-339 9 April, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "accessory mass", "curb mass", "maximum load", "maximum loaded vehicle mass", "normal load", "normal occupants' mass", "occupant distribution", "optional item", "production options mass" and "vehicle capacity mass".

SOR/79-340 9 April, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1979

Section 2 by adding the definitions "rim base", "rim diameter", "rim size designation", "rim type designation", "rim width" and "weather side".

SOR/79-374 27 April, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1979

The definition "antilock system" in section 2, section 2 by adding the definitions "backup system", "brake power assist unit", "brake power unit", "hydraulic brake system", "initial brake temperature", "lightly loaded vehicle weight", "parking mechanism", "snub", "spike stop", "split service brake system", "stopping distance" and "variable proportioning brake system".

SOR/79-677 24 September, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "armour", "brake hose", "brake hose assembly", "brake hose end fitting", "free length", "permanently attached hose end fitting", "rupture" and "vacuum tubing connector".

SOR/79-719 9 October, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definition "steering control system".

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definitions "blister", "chipping", "ERBP", "grade", "scuffing", "sloughing" and "stickiness" in section 2.

SOR/80-161 21 February, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 30, 1980

Section 2 by adding the definitions "seat belt anchorage" and "seating reference point".

SOR/80-282 21 April, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1980

Section 2 by adding the definitions "passive restraint system" and "unloaded vehicle mass".

SOR/80-439 12 June, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1980

Section 2 by adding the definition "unit magnification mirror".

SOR/80-440 12 June, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "steering column" and "steering shaft".

SOR/80-636 5 August, 1980 pursuant to section 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "type 1 headlamp" and "type 2 headlamp".

SOR/80-638 5 August, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "on-highway vehicle" and "on-off-highway vehicle".

SOR/80-782 2 October, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definition "forward control configuration".

SOR/81-88 22 January, 1981 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective July 1, 1981

Section 2 by adding the definitions "braking interval" and "speed attainable in 1.6 km (1 mile)".

SOR/81-1033 10 December, 1981 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1982

The definition "designated seating position" in section and section 2 by adding subsection (2).

SOR/82-482 7 May, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1982

Section 2.1.

SOR/82-569 3 June, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1982

Section 2 by adding the definitions "contactable surface", "infant", "infant restraint system" and "seat orientation reference line (SORL)".

SOR/82-656 30 June, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1982

Paragraph (c) of the definition "moped" in section 2.

SOR/82-753 29 July, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1983

Section 2 by adding the definitions "body type", "check digit", "engine type", "line", "make", "model", "model year", "off-road motorcycle", "plant of manufacture" and "series".

SOR/82-754 29 July, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1983

Section 2 by adding the definitions "compressed natural gas" or "CNG" and "liquefied petroleum gas" or "LPG".

SOR/83-176 18 February, 1983 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective March 9, 1983

Subsection 2(1) by adding the definition "booster cushion".

SOR/83-859 4 November, 1983 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definition "motorcycle" in subsection 2(1).

SOR/84-374 11 May, 1984 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "child" and "child restraint system".

SOR/84-812 18 October, 1984 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "bonded construction sealed beam headlamp", "headlamp", "replaceable bulb headlamp", "sealed beam headlamp" and "transparent cover" and the definitions "type 1 headlamp" and "type 2 headlamp" in section 2.

SOR/86-161 23 January, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definition "ANS Z26" in section 2.

SOR/86-683 19 June, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1987

Paragraph (a) of the definition "lightly loaded vehicle weight" in section 2.

SOR/86-976 11 September, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definition "information readout display".

SOR/86-977 11 September, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Paragraphs (a) to (c) of the definition "minibike" in section 2.

SOR/87-154 19 March, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "tether belk hook" and "tether strap".

SOR/87-497 14 August, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definitions "daytime running lamp" and "optically combined lamps".

SOR/87-578 24 September, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 2 by adding the definition "vehicle fuel tank capacity".

SOR/87-660 19 November, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definitions "competition snowmobile" and "snowmobile" in section 2; and section 2 by adding the definition "snowmobile trailer".

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definitions "minibike", "moped", "motor driven cycle" and "off-road motorcycle" in subsection 2(1) are revoked; the definitions "all-terrain vehicle", "competition motorcycle" and "motorcycle" in subsection 2(1); and subsection 2(1) by adding the definitions "limited-speed motorcycle" and "restricted-use motorcycle".

National Safety Mark

3. (1) Where the national safety mark is affixed to a vehicle it shall be

(a) in the form set out in Schedule I and affixed only by a person authorized by the Minister; and

(b) indelibly and permanently affixed by the person authorized for that purpose on each vehicle of a prescribed class, in such manner as not to be removable except by the destruction or defacing of the mark.

(2) A number shall be assigned by the Minister to each person authorized to affix the national safety mark, and the number shall appear in the space provided in the centre of the national safety mark.

(3) The national safety mark shall have a diameter of at least 25 mm and shall be of the proportions shown in Schedule I.

(4) The authorization referred to in paragraph (1)(a) shall be in the form set out in Schedule II.

4. (1) Subject to subsections (2) to (4), the national safety mark shall be affixed adjacent to the applicable statement of compliance referred to in section 6, and

(a) to the hinge pillar, door latch post or the door edge that meets the door latch post next to the driver's seating position;

(b) where it is impracticable to affix the national safety mark in accordance with paragraph (a), to the left side of the instrument panel or to the inward facing surface of the door next to the driver's seating position; or

(c) where it is impracticable to affix the national safety mark in accordance with paragraph (a) or (b), in an approved location.

(2) In the case of a trailer, the location of the national safety mark shall be on the forward half of the left side of the trailer so that it is easily readable from outside the vehicle without moving any part thereof.

(3) In the case of a motorcycle or restricted-use motorcycle, the national safety mark shall be located on a permanent part of the vehicle as close as is practicable to the intersection of the steering post and the handlebars so

that it is easily readable without moving any part of the vehicle except the steering system.

(4) In the case of a snowmobile or a snowmobile cutter, the location of the national safety mark shall be on the rear half of the right side of the snowmobile or snowmobile cutter so that it is easily readable from outside the vehicle without moving any part thereof.

(5) The national safety mark shall not be affixed to any vehicle that does not bear the applicable statement of compliance label referred to in section 6.

(6) No manufacturer, distributor or importer shall remove the national safety mark from any vehicle unless

(a) that vehicle has been sold for purposes other than resale; or

(b) the mark is removed solely for the purpose of repairing the vehicle and is re-affixed immediately after the repair of the vehicle is completed.

5. No person shall use a national safety mark or a facsimile thereof in advertising or other promotion except as approved.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-491 22 June, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 3(2).

SOR/82-482 7 May, 1982 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act, effective September 1, 1982

Subsection 3(3); subsection 4(1); subsection 4(3); and
subsection 4(6) preceding paragraph (a).

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act

Subsection 4(3).

Statement of Compliance

6. (1) Subject to subsections (2) to (6) and (10), and as a condition of the use of the national safety mark on a vehicle, a label bearing in indelible lettering a statement of compliance, lettered in a colour that contrasts with the background colour of the label, shall be permanently affixed by the manufacturer of the vehicle to the same surface of the vehicle as that to which the national safety mark is to be affixed, and the label shall state, in block capitals and in numerals not less than 2 mm (3/32 in.) in height,

(a) the name of

(i) the company that manufactured the vehicle, if it was manufactured by a company, or, if it was manufactured by a partnership or individual, the usual name under which the partnership or individual carries on business, or

(ii) the company authorized to affix the national safety mark to the vehicle, if a company is so authorized, or, if a partnership or individual is so authorized, the usual name under which the partnership or individual carries on business;

(b) the month and year during which work on the vehicle was completed at the place of main assembly;

(c) that the vehicle conforms to all applicable federal motor vehicle safety standards in effect on the date of its manufacture;

(d) the vehicle identification number; and

(e) in the case of a passenger car, multipurpose passenger vehicle, truck, bus, chassis-cab, trailer, trailer converter dolly or motorcycle,

(i) the gross vehicle weight rating of the vehicle expressed in kilograms, and

(ii) the gross axle weight rating for each axle of the vehicle expressed in kilograms and identified in order from front to rear.

(2) The gross vehicle weight rating and the gross axle weight ratings shall be clearly identified as such on the statement of compliance by the words "Gross Vehicle Weight Rating" and "Gross Axle Weight Ratings" or "Poids nominal brut du véhicule" and "Poids nominal brut sur l'essieu", or by the abbreviations "GVWR" and "GAWR" or "PNBV" and "PNBE".

(3) In the case of a multipurpose passenger vehicle, school bus, motorcycle, limited-speed motorcycle, restricted-use motorcycle, all-terrain vehicle or competition motorcycle, the label referred to in subsection (1) shall also state that the vehicle is a multipurpose passenger vehicle, school bus, motorcycle, limited-speed motorcycle, restricted-use motorcycle, all-terrain vehicle or competition motorcycle, as the case may be.

(4) In the case of a chassis-cab or a truck tractor not fitted with a fifth wheel coupling,

(a) in lieu of the lettering referred to in paragraph (1)(c), the lettering shall state that the vehicle conforms to the applicable federal motor vehicle safety standards in effect on the date of its manufacture and shall list the standards numbers of the standards to which the vehicle conforms in full; and

(b) the statement of compliance label referred to in subsection (1) or a similar document

(i) shall be temporarily affixed,

(ii) shall be affixed so as to be easily readable,

(iii) shall be protected against any weather conditions to which it may be exposed, and

(iv) need not be affixed adjacent to the location at which the national safety mark is to be affixed.

(5) A statement of compliance label that incorporates the national safety mark need not bear the statement referred to in paragraph (1)(c).

(6) In the case of a limited-speed motorcycle, the label referred to in subsection (1), or a separate label permanently affixed to the vehicle in a conspicuous position, shall also state that the use of the vehicle may be restricted by provincial authorities to certain roads.

(9) For the purpose of paragraph (1)(e), the gross vehicle weight rating expressed in kilograms shall be not less than the sum of

(a) the unloaded vehicle mass;

(b) the rated cargo mass; and

(c) the product obtained,

(i) in the case of a school bus, by multiplying the seating capacity designated by the vehicle manufacturer by 55 kg (120 pounds), or

(ii) in the case of any vehicle other than a school bus, by multiplying the seating capacity designated by the vehicle manufacturer by 70 kg (150 pounds).

(10) In the case of a model of motor vehicle in respect of which the Governor in Council has made an exemption order pursuant to section 9.1 of the Act,

(a) the label referred to in subsection (1) shall specify

(i) the safety standards by number and title in respect of which the exemption has been granted, and

(ii) the short title of the exemption order; and

(b) a label shall be securely affixed to the windshield or side window of the vehicle specifying

(i) the features of the vehicle and the safety standards by number and title in respect of which the exemption has been granted, and

(ii) the short title of the exemption order.

7. Where a manufacturer completes the manufacture of a vehicle from a chassis-cab bearing the national safety mark or from a truck tractor, not fitted with a fifth wheel coupling, bearing the national safety mark, he shall

(a) comply with the requirements of the safety standards set out in Schedule IV that are applicable, in respect of the work carried out by him, to the vehicle so completed;

(b) permanently affix the statement of compliance label referred to in section 6, in respect of the completed vehicle, to the same surface of the vehicle as that to which the national safety mark is affixed and adjacent thereto;

(c) mark the statement of compliance label affixed by him pursuant to paragraph (b) with

(i) the vehicle identification number used by the manufacturer of the chassis-cab or truck tractor on the statement of compliance label or similar document temporarily affixed by that manufacturer pursuant to paragraph 6(4)(b), and

- (ii) notwithstanding paragraph 6(1)(b), a date of manufacture for the completed vehicle that is no earlier than the date of manufacture of the chassis-cab and no later than the actual date of completion of the vehicle; and
- (d) remove from the chassis-cab or truck tractor and keep the statement of compliance label or similar document temporarily affixed by the manufacturer of the chassis-cab or truck tractor pursuant to paragraph 6(4)(b).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978
amended by

SOR/79-940 6 December, 1987 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 6(5).

SOR/81-455 8 June, 1981 pursuant to section 9.2 of the
Motor Vehicle Safety Act

Subsection 6(1) preceding paragraph (a); and subsection
6(10) is added.

SOR/82-482 7 May, 1982 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act, effective September 1, 1982

Paragraph 6(1)(e) preceding subparagraph (i); subsection
6(5); subsection 6(9); and section 7 preceding paragraph
(a).

SOR/87-660 19 November, 1987 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Subsection 6(8) is revoked.

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act

Subsection 6(1) preceding paragraph (a); subsection 6(3);
effective September 1, 1988: paragraph 6(1)(e) preceding
subparagraph (i); subsection 6(6); and subsection 6(7) is
revoked.

Records

8. Every manufacturer, distributor and importer of vehicles and every manufacturer, distributor and importer of vehicle components for delivery to a manufacturer shall establish and maintain such records of testing conducted by or on behalf of the manufacturer as will enable an inspector to determine whether such vehicles or vehicle components comply with these Regulations.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978
amended by

SOR/82-482 7 May, 1982 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act, effective September 1, 1982

Section 8.

Importation

9. (1) Subject to subsection (4), no person shall import into Canada any vehicle of a class for which safety standards have been prescribed pursuant to these Regulations as a condition of the importation of such vehicle unless

(a) that vehicle

(i) complies with the safety standards applicable thereto pursuant to section 14, and

(ii) if imported by an importer, bears the statement of compliance label that it would be required to bear pursuant to section 6 if the national safety mark were affixed to it; and

(b) the person importing the vehicle submits the written document referred to in subsection (2).

(2) Any person importing into Canada a vehicle of a prescribed class shall submit a written document signed by him or his duly authorized agent and setting out,

(a) the name of

(i) the company that manufactured the vehicle, if it was manufactured by a company, or, if it was manufactured by a partnership or individual, the usual name under which the partnership or individual carries on business, and

(ii) the company that imported the vehicle, if it was imported by a company, or, if it was imported by a partnership or individual, the usual name under which the partnership or individual carries on business,

(b) in the case of a person who is not an importer, the month and the year during which work on the vehicle was completed at the place of main assembly,

(c) a statement that on the date of its importation the vehicle complies with such of these Regulations as were in force on the date of its manufacture,

(d) in the case of an importer, a statement that the vehicle bears the applicable statement of compliance label referred to in section 6, and

(e) identification of the vehicle, adequate to distinguish the vehicle from all similar vehicles,

and shall submit a written statement from the manufacturer or his duly authorized agent that the vehicle described in the document complied with these Regulations on the date of completion of its manufacture.

(3) The written statement, referred to in subsection (2), from the manufacturer or his duly authorized agent shall be submitted separately in respect of each vehicle presented for importation, and the statement of compliance label referred to in section 6 shall be deemed to be such written statement.

(4) An importer may import into Canada a vehicle that does not comply with the safety standards applicable thereto pursuant to section 14 if such vehicle is modified in such a manner that it complies with those safety standards before it leaves the possession of the importer or his consignee.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978

Export and Interprovincial Shipments

10. In accordance with section 6 of the Act, a manufacturer or distributor may export from Canada, or deliver for export from Canada, a vehicle manufactured in Canada that does not have a national safety mark applied to it where the vehicle

(a) is of a class for which safety standards have been prescribed under section 4 of the Act; and

(b) does not comply with all the safety standards applicable to that class of vehicle.

11. In accordance with section 6 of the Act, a manufacturer or distributor may send or convey, or deliver for the purpose of sending or conveying from one province to another, a bus, chassis-cab, multipurpose passenger vehicle, passenger car or truck that bears a national safety mark and does not have any outside rearview mirrors mounted thereon if the applicable outside rearview mirrors required by section 111 of Schedule IV and all hardware that is necessary for the mounting of the outside rearview mirrors accompany the vehicle and all holes that are necessary for that mounting have been made in the sheet metal of the vehicle.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978
amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Paragraphs 10(2)(a) and (b); subsection 10(6); and
subsection 11(2) following paragraph (b).

SOR/87-450 30 July, 1987 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 10(1) preceding paragraph (a); and section 10 by
adding subsection (1.1).

SOR/88-536 18 October, 1988 pursuant to section 4 of the
Motor Vehicle Safety Act

Sections 10 and 11.

Defect Information

12. (1) Where a manufacturer, distributor or importer uses the national safety mark and gives notice of defect pursuant to section 8 of the Act, that manufacturer, distributor or importer shall, as a condition of such use, provide to the Minister the following:

(a) the name of the company that is giving the notice, if the notice is being given by a company, or, if the notice is being given by a partnership or individual, the usual name under which the partnership or individual carries on business;

(b) the identifying classification of each vehicle in respect of which the notice is given, including its make, model, model year, vehicle identification number and the period during which it was manufactured;

(c) the total number of vehicles affected by the notice of defect and the number of such vehicles in each identifying classification;

(d) the estimated percentage of the potentially affected vehicles that contain the defect;

(e) a description of the defect;

(f) a chronology of all principal events that were the basis for the determination of the existence of the defect;

(g) a statement of the measures to be taken to repair the defect; and

(h) copies of all notices, bulletins and other circulars issued by the manufacturer in respect of the defect, including a detailed description with diagrams and illustrations as necessary of the nature and physical location of the defect.

(2) The information and material referred to in subsection (1) shall be sent to the Minister as soon as practicable after the notice of defect referred to in section 8 of the Act has been given.

Prescribed Classes of Vehicles

13. The classes of vehicles listed in Schedule III are prescribed

(a) as classes of vehicles to which the national safety mark may be affixed; and

(b) as classes of vehicles for the purposes of section 7 of the Act, except that, for the purposes of that section, no such class includes any vehicle, other than a bus, manufactured more than fifteen years before the date of its importation into Canada.

14. (1) Subject to subsection (2), the safety standards set out in Schedules IV to VI are prescribed as safety standards for vehicles of prescribed classes and their components.

(2) Except as otherwise provided in these Regulations, it is a condition of the use of the national safety mark in relation to a vehicle of a prescribed class and of the importation of such a vehicle that the vehicle and its components comply with each safety standard referred to by number under the heading CMVSS in Schedule III, opposite which and under the description of the class of such vehicle there is set out the letter "x".

15. A chassis-cab need not comply with a safety standard set out in Schedule IV if that chassis-cab is not fitted with the equipment referred to in that safety standard.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978

SOR/86-995 18 September, 1986 pursuant to sections 4 and 15
of the Motor Vehicle Safety Act

Section 13.

Seizures

16. (1) An inspector who seizes any vehicles or vehicle components pursuant to section 13 of the Act shall keep a written record of any such seizure, signed by him and setting out

(a) the place, date and hour of the seizure;

(b) the name of the person who owns or on whose premises are situated the vehicles or vehicle components that are seized;

(c) the number, description and identification of such vehicles or vehicle components;

(d) the place, if any, to which such vehicles or vehicle components may be removed, pursuant to paragraphs 17(a) and (b); and

(e) the name and address of any person to whom any such vehicles or vehicle components may be entrusted, pursuant to paragraph 17(c).

(2) The person who owns or on whose premises are situated the vehicles or vehicle components that are seized, or an employee or agent of such person, shall sign the record kept pursuant to subsection (1) and shall receive a copy thereof.

17. Every vehicle and vehicle component seized by an inspector may, during such time as the seizure is in effect,

(a) be removed from any place to any property owned or occupied by Her Majesty in right of Canada;

(b) be removed from any place to a place of safety; and

(c) be entrusted to the care and control of

(i) any responsible person, or

(ii) the person from whom the vehicle or vehicle component was seized,

upon such terms and conditions as the inspector may require.

18. Any person to whom a vehicle or vehicle component is entrusted pursuant to paragraph 17(c) shall receive a copy of the record kept pursuant to subsection 16(1) and an inspector shall, upon the termination of the detention period referred to in subsection 13(2) of the Act, or upon forfeiture of the vehicle or vehicle component, provide such person with a signed receipt setting out the number, description and identification of the vehicles or vehicle components that are to be released from the care and control of such person at the time the receipt is given.

19. An inspector may require any person to whom a vehicle or vehicle component has been entrusted pursuant to paragraph 17(c), or an employee or agent of such person, to declare verbally or in writing whether any person has removed, altered or interfered in any way with that vehicle or vehicle component during the time that it was so entrusted.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978

Disposition of Seized Vehicles and Components

20. (1) Subject to subsection (3), every vehicle or vehicle component that is forfeited under section 14 of the Act and is not subject to further proceedings under that section may be

(a) retained by the Department of Transport or by such other Department of the Government of Canada as the Minister may direct for the purposes of experimentation or research;

(b) donated to a vocational school for the purposes related to education in the fields of science, mechanics, or other related fields; or

(c) dismantled, destroyed and sold by public tender to any person engaged in the business of buying or selling automotive parts or scrap materials.

(2) Subject to subsection (3), any vehicle or vehicle component referred to in subsection (1) and not retained, donated or sold pursuant to that subsection may be disposed of pursuant to the provisions of the Surplus Crown Assets Act.

(3) The Minister may direct that any vehicle or vehicle component that is referred to in subsection (1) and remains in the care and control of the Department of Transport shall be disposed of as he sees fit.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978

Safety Standards

21. Except in the case of sections 100 and 200 of Schedule IV, section 1100 of Schedule V and section 1200 of Schedule VI, each section of Schedules IV, V and VI may be cited as a Canada Motor Vehicle Safety Standard.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Temporary Exemptions From
Motor Vehicle Safety Standards

22. (1) An application for exemption under section 9.1 of the Act shall be submitted to the Minister and shall

(a) state the full name and address of the applicant, whether the applicant is an individual, partnership or corporation and, in the case of a partnership or corporation, the name of the province or country under the laws of which it is established;

(b) state the number, title and text or substance of the standards from which temporary exemption is sought and the length of time desired for such exemption;

(c) set forth the basis for the application and the information required by subsection (2), (3) or (4), whichever is applicable;

(d) specify any part of the information and data in the application that the applicant wishes to be withheld from public disclosure and the reason for such withholding; and

(e) set out the reasons why the granting of the exemption would be in the public interest and consistent with the objectives of the Act.

(2) Where the basis of an application for exemption is substantial financial hardship, the applicant shall submit to the Minister

(a) engineering and financial information demonstrating in detail why compliance with the standards referred to in paragraph (1)(b) would cause substantial financial hardship, including

(i) a list of each of the items of motor vehicle equipment that would have to be modified in order to achieve compliance,

(ii) the itemized estimated cost of modifying each item referred to in subparagraph (i)

(A) as soon as possible,

(B) at the end of a one year exemption period, if the application is for exemption for one year or more,

(C) at the end of a two year exemption period, if the application is for exemption for two years or more, or

(D) at the end of a three year exemption period, if the application is for exemption for three years,

(iii) the estimated price increase per vehicle to counter the total costs incurred pursuant to subparagraph (ii) and a statement of the anticipated effect of each such price increase,

(iv) corporate balance sheets and income statements for the three fiscal years immediately preceding the filing of the application,

(v) a projected balance sheet and income statement for the fiscal year following a denial of the application, and

(vi) a discussion of any other hardships that the applicant wishes to be considered; and

(b) a description of the applicant's efforts to comply with the standards from which exemption is sought, including

(i) a chronological analysis of such efforts showing their relationships to the history of the standards from which exemption is sought,

(ii) a discussion of the alternate means of compliance considered and the reasons for rejection of each of them,

(iii) a description of the steps to be taken while the exemption is in effect and the estimated date by which full compliance will be achieved whether by design changes or termination of production of non-conforming vehicles, and

(iv) the total number of vehicles produced by or on behalf of the applicant in the twelve month period prior to the submission of the application.

(3) Where the basis of an application is the development of new safety features whose performance is equivalent or superior to that of the prescribed standards from which exemption is sought, the applicant shall submit to the Minister

(a) a description of the new safety features and research, development and testing documentation establishing the innovative nature of those features;

(b) an analysis establishing that the level of safety of the new safety features is equivalent to or exceeds the level of safety established by the prescribed standards, including

(i) a detailed description of how a vehicle equipped with the new safety features differs from one that complies with the prescribed standards,

(ii) where the applicant is manufacturing a vehicle that complies with the prescribed standards, the results of tests conducted to substantiate such compliance, and

(iii) the results of tests conducted on the new safety features that demonstrate performance that meets or exceeds the requirements of the prescribed standards;

(c) evidence that an exemption would facilitate the development or field evaluation of the vehicle;

(d) a statement as to whether the manufacturer intends, at the end of the exemption period,

(i) to comply with the prescribed standards,

(ii) to apply for a further exemption, or

(iii) to request that the prescribed standards be amended to incorporate the new safety features; and

(e) a statement that not more than one thousand exempted vehicles will be sold in Canada in any twelve month period for which an exemption may be granted.

(4) Where an application is for the renewal of an exemption on the basis of an application pursuant to subsection (3), the applicant shall submit to the Minister

(a) the information required pursuant to subsection (3); and

(b) a statement respecting the total number of exempted vehicles sold in Canada under that exemption.

(5) Where the basis of an application is the development of new kinds of vehicles and vehicle systems and components, the applicant shall submit to the Minister

(a) research, development and testing documentation establishing that an exemption would not unreasonably degrade the safety of the vehicle, including

(i) a detailed description of how the vehicle equipped with new kinds of vehicle systems and components would, if exempted, differ from one that complies with the prescribed standards,

(ii) where the applicant is manufacturing a vehicle that complies with the prescribed standards, the results of tests conducted to substantiate such compliance,

(iii) the results of any tests conducted on the vehicle that demonstrate its failure to meet the prescribed standards expressed as comparative performance levels,

(iv) reasons why failure to meet the prescribed standards does not unreasonably degrade the safety of the vehicle, and

(v) a discussion of the alternate means of compliance considered and the reasons for rejection of each of them;

(b) substantiation that a temporary exemption would facilitate the development or field evaluation of the vehicle;

(c) a statement as to whether the manufacturer intends, at the end of the exemption period, to comply with the prescribed standards; and

(d) a statement that not more than one thousand exempted vehicles will be sold in Canada in any twelve month period for which an exemption may be granted.

(6) Where an application is for the renewal of an exemption on the basis of an application pursuant to subsection (5), the applicant shall submit to the Minister

(a) the information required pursuant to subsection (5); and

(b) a statement respecting the total number of exempted vehicles sold in Canada under that exemption.

Established by

SOR/81-455 8 June, 1981 pursuant to section 9.2 of the
Motor Vehicle Safety Act.

SCHEDULE I

(s. 3)



Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

SCHEDULE II

(s. 3)

Canada

Federal Department of Transport

Motor Vehicle Safety Act (Sec. 4(2))

Motor Vehicle Safety Regulations (Sec. 3(4))

Ministerial Authorization

Pursuant to the provisions of the Motor Vehicle Safety Act and the Motor Vehicle Safety Regulations, I, the undersigned Minister of Transport hereby authorize

to use and affix at the premises described as:

on any vehicle of a class referred to in section 13 of the Motor Vehicle Safety Regulations, the national safety mark, provided every such vehicle and its components comply with all safety standards applicable thereto.

This authorization expires on:

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Ottawa,

for: Minister of Transport

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

SCHEDULE III
(s.s. 2, 13 and 14)
CANADA MOTOR VEHICLE SAFETY STANDARDS

		CLASSES OF VEHICLES										
EQUIPMENT	CMVSS	Bus	Chassis-cab	Restricted-Use Motorcycle	Motorcycle	Multipurpose Passenger Vehicle	Passenger Car	Snowmobile	Snowmobile Cutter	Trailer	Trailer Converter Dolly	Truck
Control Location	101	x	x			x	x					x
Shift Sequence	102	x	x			x	x					x
Defrosting Defogging	103	x	x			x	x					x
Wiping and Washing	104	x	x			x	x					x
Hydraulic Brakes	105	x				x	x					x
Brake Hoses	106	x	x		x	x	x			x	x	x
Reflecting Surfaces	107	x	x			x	x					x
Lighting	108	x	x	x	x	x	x		x	x		x
Headlamps	108.1	x	x		x	x	x					x
Tires and Rims	110						x					
Rearview Mirrors	111	x			x	x	x					x
Headlamp Concealment	112	x	x		x	x	x					x
Hood Latches	113	x	x			x	x					x
Locking System	114						x					
Vehicle Identification Number	115	x	x	x	x	x	x	x		x	x	x
Hydraulic Fluids	116	x	x		x	x	x			x	x	x
Power Windows	118					x	x					x
Tire Selection and Rims	120	x	x		x	x				x	x	x
Air Brake Systems	121	x	x							x	x	x
Motorcycle Brake Systems	122				x							
Controls & Displays - Two & Three Wheeled Vehicles	123				x							
Accelerator Control Systems	124	x	x			x	x					x
Occupant Protection	201	x				x	x					x
Head Restraints	202						x					
Impact Protection	203	x				x	x					x
Steering Wheel	204	x				x	x					x
Glazing Materials	205	x	x		x	x	x			x		x
Door Latches	206		x			x	x					x
Seat Anchorages	207	x	x			x	x					x
Seat Belts	208	x				x	x					x
Belt Assemblies	209	x	x			x	x			x		x

SCHEDULE III- Continued
CANADA MOTOR VEHICLE SAFETY STANDARDS

		CLASSES OF VEHICLES										
EQUIPMENT	CMVSS	Bus	Chassis-cab	Restricted-Use Motorcycle	Motorcycle	Multipurpose Passenger Vehicle	Passenger Car	Snowmobile	Snowmobile Cutter	Trailer	Trailer Converter Dolly	Truck
Belt Anchorages	210	x	x			x	x					x
Tether Anchorages for Child Restraints	210.1						x					
Nuts, Discs, Hub Caps	211					x	x					
Windshield Mounting	212	x				x	x					x
Child Seating and Restraint Systems	213	x				x	x					x
Side Door Strength	214						x					
Bumpers	215						x					
Roof Intrusion Protection	216						x					
Bus Window Retention, Release and Emergency Exits	217	x										
Windshield Zone Intrusion	219	x				x	x					x
Rollover Protection	220	x										
Joint Strength	221	x										
Passenger Protection	222	x										
Fuel System	301	x				x	x					x
LPG Fuel System	301.1	x	x			x	x					x
CNG Fuel System	301.2	x	x			x	x					x
Flammability	302	x	x			x	x					x
Axle	901									x		
Emission Device	1101	x	x			x	x					x
Crankcase Emission	1102	x	x			x	x					x
Hydrocarbon and CO	1103	x	x			x	x					x
Diesel Opacity	1104	x	x			x						x
Evaporative Emission	1105	x	x			x	x					x
Noise	1106	x			x	x	x					x
Snowmobile Standards	1201							x				
Tie Down	1207								x			
	1208									x		
Tow Bar	1209								x			

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.
amended by

SOR/78-80 24 January, 1978 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1979

Schedule III by deleting "x" opposite "Seat Belts 208" in "Chassis-cab" column.

SOR/78-910 1 December, 1978 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The French version of Schedule III by deleting "Ceintures de sécurité 208" and "Installation des ceintures de sécurité 209" under the column headed "Équipement NSVAC" and replacing them with "Installation des ceintures de sécurité 208" and "Ceintures de sécurité 209".

SOR/79-305 30 March, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by inserting "x" opposite "Lighting 108" in "Chassis-Cab", "Passenger Car" and "Truck" columns; by deleting "Lighting 108A" and replacing with "Headlamps 108A"; and by inserting "x" opposite "Headlamps 108A" in "Bus" and "Multipurpose Passenger Vehicle" columns.

SOR/79-306 30 March, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective April 1, 1980

Schedule III by deleting the heading "Motorcycle" in "Classes of Vehicles" column and replacing with "Motorcycles, Motor Driven Cycles and Mopeds".

SOR/79-339 9 April, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by deleting "Tires 109" in "Equipment CMVSS" column; and by deleting "x" opposite "Tires 109" in "Passenger Car" column.

SOR/79-340 9 April, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1979

Schedule III by inserting "Tire Selection and Rims 120"; and by inserting "x" opposite "Tire Selection and Rims 120" in "Bus", "Chassis-cab", "Motorcycle", "Multipurpose Passenger Vehicle", "Trailer", "Trailer Converter Dolly" and "Truck" columns.

SOR/79-374 27 April, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1979

Schedule III by inserting "x" opposite "Hydraulic Brakes 105" in "Bus" column.

SOR/79-677 24 September, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by deleting "Hydraulic Hoses 106" and replacing with "Brake Hoses 106"; and by inserting "x" opposite "Brake Hoses 106" in "Bus", "Chassis-cab", "Motorcycles, Motor Driven Cycles, Mopeds", "Multipurpose Passenger Vehicle", "Passenger Car", "Trailer", "Trailer Converter Dolly" and "Truck" columns.

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by deleting "Gauche" and "Droite" from the heading of the first column where they appear; by deleting "Lighting 108A" and replacing with "Headlamps 108.1"; by deleting "Rearview Mirrors 111A" and replacing with "Rearview Mirrors 111.1"; and by deleting "Fuel Tanks 1212" and replacing with "Fuel Tanks 1211".

SOR/80-160 21 February, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 30, 1980

Schedule III by inserting "Joint Strength 221"; and by inserting "x" opposite "Joint Strength 221" in "Bus" column.

SOR/80-161 21 February, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 30, 1980

Schedule III by inserting "Passenger Protection 222"; and by inserting "x" opposite "Passenger Protection 222" in "Bus" column.

SOR/80-282 21 April, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1980

Schedule III by inserting "x" opposite "Windshield Mounting 212" in "Bus", "Multipurpose Passenger Vehicle" and "Truck" columns.

SOR/80-439 12 June, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1980

Schedule III by inserting "x" opposite "Rearview Mirrors 111" in "Bus", "Motorcycles, Motor Driven Cycles and Mopeds" and "Truck" columns; and by deleting "x" opposite "Rearview Mirrors 111.1" in "Bus" column.

SOR/80-639 5 August, 1980 pursuant to section 15 of the Motor Vehicle Safety Act

The French version of Schedule III by deleting the heading of the column "Motocyclettes, vélomoteurs et cyclomoteurs" and replacing with "Catégorie de véhicules"; and by deleting the heading "Motocyclettes" in the column "Catégorie de véhicules" and replacing with "Motocyclettes, vélomoteurs et cyclomoteurs".

SOR/81-88 22 January, 1981 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective July 1, 1981

Schedule III by inserting "Motorcycle, Motor Driven Cycle and Moped Brake Systems 122"; and by inserting "x" opposite "Motorcycle, Motor Driven Cycle and Moped Brake Systems 122" in "Motorcycles, Motor Driven Cycles and Mopeds" column.

SOR/81-665 20 August, 1981 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1982

Schedule III by inserting "Windshield Zone Intrusion 219"; and by inserting "x" opposite "Windshield Zone Intrusion 219" in "Bus", "Multipurpose Passenger Vehicle", "Passenger car" and "Truck" columns.

SOR/82-656 30 June, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1982

Schedule III by deleting "Motorcycle Controls and Displays 123" and replacing with "Controls and Displays--Two and Three Wheeled Vehicles 123".

SOR/82-753 29 July, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1983

Schedule III by deleting "Vehicle Number 115" and replacing with "Vehicle Identification Number 115"; and by inserting "x" opposite "Vehicle Identification Number 115" in "Bus", "Chassis-cab", "Competition Motorcycle", "Minibike", "Motorcycles, Motor Driven Cycles and Mopeds", "Multipurpose Passenger Vehicle", "Passenger Car", "Trailer", "Trailer Converter Dolly" and "Truck" columns.

SOR/82-754 29 July, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1983

Schedule III by inserting "LPG Fuel System 301.1"; by inserting "x" opposite "LPG Fuel System 301.1" in "Bus", "Chassis-cab", "Multipurpose Passenger Vehicle", "Passenger Car" and "Truck" columns; by inserting "CNG Fuel System 301.2"; and by inserting "x" opposite "CNG Fuel System 301.2" in "Bus", "Chassis-cab", "Multipurpose Passenger Vehicle", "Passenger Car" and "Truck" columns.

SOR/83-138 4 February, 1983 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1983

Schedule III by inserting "x" opposite "Occupant Protection 201", "Impact Protection 203" and "Steering Wheel 204" in "Bus", "Multipurpose Passenger Vehicle" and "Truck" columns.

SOR/84-812 18 October, 1984 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by inserting "x" opposite "Headlamps 108.1" in "Motorcycles, Motor Driven Cycles and Mopeds" column.

SOR/86-682 19 June, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by inserting "x" opposite "Power Windows 118" in "Truck" column.

SOR/86-683 19 June, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1987

Schedule III by inserting "x" opposite "Hydraulic Brakes 105" in "Multipurpose Passenger Vehicle" and "Truck" columns.

SOR/86-975 11 September, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1989

Schedule III by inserting "Tether Anchorages for Child Restraints 210.1" and by inserting "x" opposite "Tether Anchorages for Child Restraints 210.1" in "Passenger Car" column.

SOR/87-658 19 november, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by deleting "Rearview Mirrors 111.1"; and by inserting "x" opposite "Rearview Mirrors 111" in "Passenger car" column.

SOR/87-660 19 November, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by deleting the column "Competition Snowmobile" under the heading "Classes of Vehicles"; by inserting "x" opposite "Lighting 108" in "Snowmobile Cutter" column; by inserting "x" opposite "Vehicle Identification Number 115" in "Snowmobile" column; by deleting "Lighting 1201", "Vehicle Number 1202", "Handgrips 1203", "Noise 1204", "Shielding 1205", "Engine Controls 1206", "Brakes 1210" and "Fuel Tanks 1211" under the heading "Equipment CMVSS"; by inserting "Snowmobile Standards 1201" under the heading "Equipment CMVSS" and by inserting "x" in "Snowmobile" column; and by deleting "x" opposite "Tie Down 1207" in "Snowmobile" column.

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Schedule III by deleting the column "Competition Motorcycle" under the heading "Classes of Vehicles"; by deleting "Minibike" under the heading "Classes of Vehicles" and replacing with "Restricted-Use Motorcycle"; effective September 1, 1988: by deleting "Motorcycles, Motor Driven Cycles and Mopeds" under the heading "Classes of Vehicles" and replacing with "Motorcycle"; by deleting "Motorcycle, Motor Driven Cycle and Moped Brake Systems 122" under the heading "Equipment CMVSS" and replacing with "Motorcycle Brake Systems 122"; and by deleting "x" opposite "Noise 1106" in the "Restricted-Use Motorcycle" column.

SCHEDULE IV

(ss. 2, 6, 7, 10, 11, 14, 15 and 21)

PART I

Definitions

100. In this Schedule,

“ANSI” means the American National Standards Institute;
(ANSI)

“ASTM” means the American Society for Testing and
Materials; (ASTM)

“boat trailer” means a trailer that is designed to
transport a boat and has cradle-type mountings that permit
the launching of the boat from the rear of the trailer;
(remorque pour embarcation)

“fixed collision barrier” means a device that

(a) consists of

(i) a structure with a flat, vertical, unyielding
impact surface that is of a size sufficient to ensure
that no portion of a vehicle striking the surface
projects or passes beyond the surface, and

(ii) a horizontal approach surface that does not
impede vehicle motion during impact and that is of a
size sufficient to ensure that a vehicle will be able
to attain a stable attitude during its approach to the
impact surface, and

(b) does not absorb any significant portion of the
kinetic energy of a vehicle striking the impact surface;

(mur fixe pour essais de collision)

“head impact area” means the area described in section
201 of this Schedule; (zone d’impact de la tête)

“head restraint” means a device that limits rearward
angular displacement of the occupant’s head relative to
his torso line; (appui-tête)

“H-point” means the mechanically hinged hip point of a
manikin that simulates the actual pivot centre of the
human torso and thigh, described in SAE Recommended

Practice J826 Manikins For Use In Defining Vehicle Seating Accommodation, (November 1962); (point H)

“open-body type vehicle” means a vehicle having no occupant compartment top or with respect to which a top is intended by the manufacturer to be installed or removed by the user; (véhicule de type ouvert)

“outboard designated seating position” means a designated seating position where a longitudinal vertical plane tangent to the outboard side of the seat cushion is less than 12 inches from the innermost point on the inside surface of the vehicle that is vertically between the seating reference point and the shoulder reference point and longitudinally between the front and rear edges of the seat cushion; (place assise désignée extérieure)

“semi-trailer” means a trailer constructed in such a manner that a substantial part of its weight rests upon or is carried by another vehicle by means of a fifth-wheel or similar coupling, but does not include a pole trailer, or any trailer designed to be drawn behind a passenger car or multipurpose passenger vehicle; (semi-remorque)

“torso line” means the line connecting the H-point and the shoulder reference point as defined in SAE Recommended Practice J787b Motor Vehicle Seat Belt Anchorage, (September 1966); (ligne de torse)

“5th percentile adult female” means a person having as physical characteristics a weight of 46.3 kg (102 lb.), height of 1498.6 mm (59 in.), erect sitting height of 784.9 mm (30.9 in.), normal sitting height of 751.8 mm (29.6 in.), hip sitting breadth of 325.1 mm (12.8 in.), hip sitting circumference of 924.6 mm (36.4 in.), waist sitting circumference of 599.4 mm (23.6 in.), chest depth of 190.5 mm (7.5 in.), bust circumference of 774.7 mm (30.5 in.), chest upper circumference of 756.9 mm (29.8 in.), chest lower circumference of 675.6 mm (26.6 in.), knee height of 454.7 mm (17.9 in.), popliteal height of 355.6 mm (14 in.), elbow rest height of 180.3 mm (7.1 in.), thigh clearance height of 104.1 mm (4.1 in.), buttock-to-knee length of 518.2 mm (20.4 in.), buttock-to-poples length of 431.8 mm (17 in.), elbow-to-elbow breadth of 312.4 mm (12.3 in.) and seat breadth of 312.4 mm (12.3 in.); (5e percentile adulte du sexe féminin)

“50th percentile adult male” means a person having as physical characteristics a weight of 74.4 kg (164 lb.), erect sitting height of 906.8 mm (35.7 in.), hip sitting breadth of 368.3 mm (14.5 in.), hip sitting circumference of 1066.8 mm (42 in.), waist sitting circumference of

838.2 mm (33 in.), chest depth of 228.6 mm (9 in.) and chest circumference of 957.6 mm (37.7 in.); (50e percentile adulte du sexe masculin)

‘‘50th percentile 6-year old child’’ means a person having as physical characteristics a weight of 21.5 kg (47.3 lb.), erect sitting height of 654.2 mm (25.4 in.), hip sitting breadth of 213.4 mm (8.4 in.), hip sitting circumference of 607.1 mm (23.9 in.) and waist sitting circumference of 528.3 mm (20.8 in.); (50e percentile enfant de 6 ans)

‘‘95th percentile adult male’’ means a person having as physical characteristics a weight of 97.5 kg (215 lb.), height of 1849.1 mm (72.8 in.), erect sitting height of 965.2 mm (38 in.), normal sitting height of 929.6 mm (36.6 in.), hip sitting breadth of 419.1 mm (16.5 in.), hip sitting circumference of 1198.9 mm (47.2 in.), waist sitting circumference of 1079.5 mm (42.5 in.), chest depth of 266.7 mm (10.5 in.), chest circumference of 1130.3 mm (44.5 in.), knee height of 594.4 mm (23.4 in.), popliteal height of 490.2 mm (19.3 in.), elbow rest height of 294.6 mm (11.6 in.), thigh clearance height of 175.3 mm (6.9 in.), buttock-to-knee length of 640.1 mm (25.2 in.), buttock-to-poples length of 548.6 mm (21.6 in.), elbow-to-elbow breadth of 505.5 mm (19.9 in.) and seat breadth of 403.9 mm (15.9 in.). (95e percentile adulte du sexe masculin)

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-161 21 February, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 30, 1980

The definition "seating reference point" in section 100 of Schedule IV is revoked.

SOR/86-453 17 April, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definition "head impact area" in section 100 of Schedule IV.

SOR/87-154 19 March, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definitions "5th percentile adult female", "50th percentile adult male", "50th percentile 6-year old child" and "95th percentile adult male" in section 100 of Schedule IV.

PART II

Control Location and Identification

101.(1) The following controls, where fitted on a motor vehicle, shall be fitted within operational reach of the driver when he is restrained by the crash protection equipment fitted in the vehicle in accordance with the requirement of section 208² and adjusted in accordance with the manufacturer's instructions:

- (a) accelerator;
- (b) automatic vehicle speed system;
- (c) choke, if manual;
- (d) clutch pedal;
- (e) driver's sun visor;
- (f) engine start;
- (g) engine stop;
- (h) hand throttle;
- (i) hazard warning;
- (j) horn;
- (k) ignition;
- (l) illumination intensity;
- (m) lighting switches;
- (n) parking brake;
- (o) rear window defog and defrost;
- (p) service brake;
- (q) steering wheel;
- (r) transmission, except for transfer case;
- (s) turn signal;
- (t) windshield defog and defrost system;
- (u) windshield washing system;

(v) windshield wiping system; and

(w) upper and lower headlamp beam switch.

(2) The following displays, where fitted on a motor vehicle, shall be fitted in such a manner that they are visible to the driver when he is restrained by the crash protection equipment fitted in the vehicle in accordance with the requirements of section 208² and adjusted in accordance with the manufacturer's instructions:

(a) brake failure warning;

(b) battery charging;

(c) engine oil pressure;

(d) engine coolant temperatures;

(e) fuel;

(f) gear position;

(g) headlamp upper beam;

(h) speedometer; and

(i) turn signal.

(3) Identification that permits recognition by the driver under daylight lighting conditions, located on or adjacent to the relevant control and appearing generally upright when the control is in the off position, shall be provided in respect of

(a) each function or, where there is a quantitative range, the extreme positions of

(i) the heating and air conditioning system controls, and

(ii) the automatic speed control;

(b) the engine start, if separate from the key-locking system;

(c) the engine stop, if separate from the key-locking system;

(d) the hand throttle; and

(e) the identification lamps, if separate from the master lighting switch.

(4) Where colour coding is used to identify the extreme positions of a temperature control, the hot extreme shall be identified by the colour red and the cold extreme by the colour blue.

(5) Identification, by a symbol similar to the appropriate symbol shown in Table I to this section, that permits recognition by the driver under daylight lighting conditions, located on or adjacent to the relevant control and appearing generally upright when the control is in the off position, shall be provided in respect of

(a) clearance, identification and side marker lamps, if separate from the master lighting switch;

(b) the master lighting;

(c) the upper and lower headlamp beams, if operated by hand, except where operated by the topmost lever control mounted on the left hand side of the steering column;

(d) the turn signal, except where operated by the topmost lever control mounted on the left hand side of the steering column and operated in a plane essentially parallel to the steering wheel;

(e) the hazard warning system;

(f) the windshield wiping system;

(g) the windshield washing system, if operated by hand;

(h) the windshield wiping and washing system if combined in one;

(i) the ventilation fan, for heater and ventilation systems;

(j) the windshield defog and defrost system; and

(k) the rear window defog and defrost system.

(6) Notwithstanding subsections (3) to (5), identification required by those subsections for a control that adjusts by means of a rotary motion and does not have an off position need not appear generally upright to the driver.

(7) The identification of the controls for the systems and components set out in paragraphs (3)(a), (c) and (e) and

(5)(a), (c), (e), (f), (g), (h), (i), (j) and (k) shall be illuminated whenever the headlamps are activated, except

(a) in the case of

(i) foot-operated controls,

(ii) hand-operated controls mounted on the steering column, floor, floor console or in the windshield header area, and

(iii) controls for an air-conditioning and heating system, if such system does not direct air directly on the windshield; and

(b) when the headlamps are being flashed.

(8) Subject to subsections (9) and (10), identification by a symbol similar to the appropriate symbol shown in Table II to this section that permits recognition by the driver of the vehicle when activated and located on or adjacent to the display it identifies shall be provided for the following displays where fitted on a motor vehicle with a GVWR of 4500 kg (10,000 pounds) or less:

(a) the headlamp upper beam;

(b) the turn signals;

(c) the hazard warning;

(d) the seat belt warning, if required by section 208;

(e) the fuel level indicator or tell-tale;

(f) the engine oil pressure indicator or tell-tale;

(g) the engine coolant temperature indicator or tell-tale;

(h) the battery charging indicator or tell-tale;

(i) the brake failure symbol, if required by sections 105 or 121;

(j) combined engine oil pressure and coolant temperature tell-tale;

(k) the automatic gear position; and

(l) the speedometer and odometer.

(9) An information readout display, the colour of which is at the option of the manufacturer, shall

(a) present information by the appropriate symbol, word or abbreviation; and

(b) have at least two levels of light intensity, a higher level for daylight viewing and a lower level for night-time viewing.

(10) If indicators and tell-tales are provided for the displays set out in paragraphs (8)(e) to (h) the symbol may be omitted from the tell-tale.

(11) Every tell-tale, except tell-tales that are a function of an informational readout display, shall

(a) be of the appropriate colour shown in Table II to this section;

(b) where a lens is used, be identified in a colour that contrasts with the lens;

(c) have a non-variable light intensity; and

(d) when activated, be visible to the driver under all daytime and night-time lighting conditions.

(12) No tell-tale referred to in subsection (11) shall emit light except

(a) when identifying a malfunction or vehicle condition for the identification of which it is designed; and

(b) during a bulb check, when starting the vehicle.

(13) Tell-tales that are a function of an informational readout display shall, when activated, be visible to the driver under all daylight and night-time lighting conditions.

(14) Where illumination is required pursuant to subsection (7) or (16) or for an indicator provided for the automatic gear position display, a control shall be provided to adjust the intensity of illumination so that it is continuously variable from a position providing no illumination or illumination that is barely discernible to a vehicle operator whose eyes have adapted to dark ambient roadway conditions to a position providing illumination sufficient for the vehicle operator to readily identify the control or indicator under conditions of reduced visibility.

(15) Illumination that is provided in the passenger compartment of the vehicle only when the headlamps are activated shall comply with the intensity of control illumination requirements set out in subsection (14).

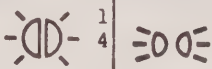

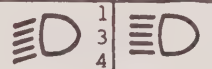








(16) Indicators and the speedometer shall be illuminated whenever the headlamps are activated except when headlamps are being flashed.

(17) Speedometers shall be calibrated in kilometers per hour and odometers and trip record counters shall be calibrated in kilometres.

(18) In addition to the symbols required by subsections (5) and (8), at the manufacturer's option other symbols that have been approved for use by the International Organization for Standardization (ISO) and are published in International Standard ISO 2575 may be used as appropriate.

TABLE 1

Control identification symbols

Control designation	Symbol/Symbole	Commandes
Clearance lamps, identification lamps and/or side marker lamps	 1 4 1	Feux de gabarit, feux d'identification, et/ou feux de position latérale
Master lighting switch	 1 4 1	Commande générale des feux
Headlamp upper and lower beam	 1 3 3	Feux de route et de croisement
Turn signals	 1 2	Indicateurs de changement de direction
Hazard warning	 1	Feux d'avertissement
Windshield wiper		Essuie-glace de pare-brise
Windshield washer		Lave-glace de pare-brise
Windshield wiper and washer		Essuie-glace et lave-glace combinés de pare-brise
Heating and/or air conditioning fan	 2	Ventilateur du système de chauffage et/ou climatiseur
Windscreen defogging and defrosting	 5	Dégivrage et désembuage du pare-brise
Rear window defogging and defrosting	 5	Dégivrage et désembuage de la lunette arrière

1. Framed areas of the symbol may be solid.

2. Outline only may be used.

3. Symbol not required if function is combined with master lighting switch.

4. Alternative for use until 31 August 1987.

5. Optional use until 31 August 1987, mandatory thereafter.

TABLEAU 1

Symboles d'identification des commandes

1. La partie encadrée du symbole peut être pleine.

2. Seul le contour peut apparaître.











3. Pas nécessaire si la commande est couplée à la commande générale des feux.

4. Peut être employée jusqu'au 31 août 1987

5. Emploi facultatif jusqu'au 31 août 1987, obligatoire par la suite.

TABLE II
Display Identification Symbols

TABLEAU II
Symboles d'identification des
indicateurs

Indicator or Tell Tale	Tell Tale Colour	Symbol/Symbole	Couleur du témoin lumineux	Indicateur ou témoin lumineux
Headlamp upper beam	BLUE 5		1 BLEU 5	Feux de route
Turn signals	GREEN		1 2 VERT	Indicateurs de changement de direction
Hazard warning	RED 5		1 3 ROUGE 5	Feux d'avertissement
Seat Belt	RED 5		4 ROUGE 5	Ceinture de sécurité
Fuel Level	YELLOW		4 JAUNE	Niveau d'essence
Engine Oil Pressure	RED 5		5 ROUGE	Pression d'huile du moteur
Engine Coolant Temperature	RED 5		5 ROUGE	Température du liquide de refroidissement
Battery Charging Condition	RED 5		5 ROUGE	Indicateur de charge
Brake Failure	RED 5	8 See sections/voir articles 105 & 121 	7 ROUGE 5	Défaillance des freins
Combined engine oil pressure and coolant temperature	RED 5		1 ROUGE 5	Combiné de la pression d'huile du moteur et de la température du liquide de refroidissement
Air Brake Low Pressure	RED 5	See section/voir article 121	5 ROUGE	Freinage à air basse pression
Anti-lock failure	YELLOW	See section/voir articles 105 & 121	JAUNE	Défaillance du système antidérapant
Automatic Gear Position	Mfg. option see section/choix du fabricant voir article 102			Position du sélecteur de vitesses (boîte automatique)
Speedometer		km/h		Compteur de vitesse
Odometer			6	Totalisateur

1. Framed areas of this symbol may be solid.
2. It is permissible to separate the left and right arrows if arrows operate independently flashing green lights.
3. Not required when independently operated turn signal lights flash simultaneously as hazard warning lights.
4. Outline only may be used.
5. Red may be red-orange. Blue may be blue-green.
6. If identified, is "km".
7. If a single tell-tale is used to indicate more than one brake system condition, use this symbol.
8. Alternative for use until 31 August 1987.

1. Les parties encadrées du symbole peuvent être pleines.
2. Il est permis de dissocier les flèches si leur fonctionnement est indépendant (lumière verte clignotante).
3. Pas nécessaire lorsque les indicateurs de changement de direction servent également de feux d'avertissement.
4. Seul le contour peut apparaître.
5. Il est permis d'utiliser le rouge-orange au lieu du rouge et le bleu-vert au lieu du bleu.
6. S'il est identifié, employer "km".
7. Si un seul témoin est employé pour indiquer plus d'une condition du système de freinage, employer le symbole.
8. Peut être employée jusqu'au 31 août 1987.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/78-257 20 March, 1978 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1981

Revoked and replaced.

SOR/86-976 11 September, 1986 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Revoked and replaced.

Transmission Shift Control Sequence

102. (1) With respect to vehicles equipped with an automatic transmission,

(a) the transmission control positions shall be located in such a manner that, in the case of a passenger car,

(i) control movement between any forward and reverse drive position is impossible except through a neutral position,

(ii) a steering column mounted control lever, if used, moves clockwise from the neutral position to any forward drive position, and

(iii) a park position, if included in a control lever sequence is located at the end adjacent to the reverse drive position;

(b) one forward drive position shall provide a greater degree of engine braking than the highest speed transmission ratio at vehicle speeds below 25 miles per hour in vehicles having more than one forward transmission gear ratio; and

(c) the engine starter shall be inoperative when the transmission control is in a forward or reverse drive position.

(2) Identification of automatic transmission control positions and of the shift lever pattern of manual transmissions, except manual transmissions having three forward speeds and the standard 'H' pattern, shall be permanently displayed in view of the driver of a vehicle.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978

Windshield Defrosting and Defogging

103. (1) In this section,

'critical area' means area C as referred to in section 104 of this Schedule; (zone critique)

'defog' means to remove moisture from the inside surface of the glass; (désembuer)

'defrost' means to melt frost or ice on the inside or outside surface of the glass; (dégivrer)

'entire windshield' means area A as referred to in section 104 of this Schedule; (pare-brise tout entier)

'road load' means the power output required to move the vehicle at curb weight plus 400 pounds on level, clean, dry, smooth portland cement concrete pavement or other surface with an equivalent coefficient of surface friction at a specified speed through still air at 68 degrees Fahrenheit and standard barometric pressure of 29.92 inches of mercury, and includes driveline friction, rolling friction and air resistance. (charge de route)

(2) Every vehicle shall be equipped with a windshield defrosting and defogging system.

(3) In the case of a passenger car the windshield defrosting and defogging system shall,

(a) meet the requirements of section 3 of SAE Recommended Practice J902 Passenger Car Windshield Defrosting Systems, (August 1964), when tested in accordance with paragraph (b) except that the areas referred to in that section as 'critical area' and 'entire windshield' shall be as referred to in subsection (1) of this section; and

(b) be tested in accordance with such of the portions of paragraphs 4.1 to 4.4.7 of SAE Recommended Practice J902, (August 1964), or SAE Recommended Practice J902a, (March 1967), as are applicable to that system.

(4) Notwithstanding subsection (3), in respect of the testing requirements for the windshield defrosting and defogging system of a passenger car,

(a) during the first 5 minutes of the test, the engine speed or speeds may be those recommended by the manufacturer as the warm-up procedure for cold weather starting;

(b) during the last 35 minutes of the test period or during the entire test period if the procedure of paragraph (a) of this subsection is not used,

(i) the engine speed shall not exceed 1,500 revolutions per minute in neutral gear, or

(ii) the engine speed and load shall not exceed the speed and load at 25 miles per hour in the manufacturer's recommended gear with road load;

(c) a room air change of 90 times per hour is not required;

(d) the windshield wipers may be used during the test if they are operated without manual assistance;

(e) one or two windows may be open a total of 1 inch;

(f) the defroster blower may be turned on at any time;

(g) the wind velocity is at any level from 0 to 3.2 km/h (0 to 2 mph); and

(h) the test chamber temperature and the wind velocity shall be measured after the engine has been started, at the forwardmost point of the vehicle or a point 91.4 cm (36 inches) from the base of the windshield, whichever is farther forward, at a level halfway between the top and the bottom of the windshield on the vehicle centreline.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978

Windshield Wiping and Washing System

104. (1) In this section,

'areas A, B and C' means the areas referred to in Column I of Tables I, II, III and IV to this section when established as shown in Figures 1 and 2 of SAE Recommended Practice J903a Passenger Car Windshield Wiper Systems, (May 1966), using the angles specified in Columns III to VI of the above Tables; (zones A, B et C)

'daylight opening' means the maximum unobstructed opening through the glazing surface as defined in paragraph 2.3.12 of Section E, Ground Vehicle Practice, SAE Aerospace-Automotive Drawing Standards, (September 1963); (ouverture de jour)

'glazing surface reference line' means the intersection of the glazing surface and a horizontal plane 25 inches above the seating reference point, as shown in Figure 1 of SAE Recommended Practice J903a, (May 1966); (ligne de référence de la surface vitrée)

'overall width' means the maximum overall body width dimension W116 as defined in Section E, Ground Vehicle Practice, SAE Aerospace-Automotive Drawing Standards, (September 1963); (largeur hors tout)

'plan view reference line' means,

(a) in respect of vehicles with a bench type front seat, a line parallel to the longitudinal centreline of the vehicle and outboard of the centre of the steering wheel by a distance equal to 0.15 times the difference between one-half the shoulder room dimension and the steering wheel centre offset, as shown in Figure 2 of SAE Recommended Practice J903a, (May 1966); and

(b) in respect of vehicles with individual front seats,

(i) a line parallel to the longitudinal centreline of the vehicle which passes through the centre of the driver's designated seating position, or

(ii) a line parallel to the longitudinal centreline of the vehicle located so that the geometric centre of the 95 per cent eye range contour is positioned on the

longitudinal centreline of the driver's designated seating position; (ligne de référence longitudinale)

'shoulder room dimension' means the front shoulder room dimension W3 as defined in Section E, Ground Vehicle Practice, SAE Aerospace-Automotive Drawing Standards, (September 1963); (espace d'épaules)

'95 per cent eye range contour' means the 95th percentile tangential cut off specified in SAE Recommended Practice J941a Passenger Car Driver's Eye Range, (August 1967). (95 pour cent du contour de la portée visuelle)

(2) The manikin H-point described by any SAE Standard or SAE Recommended Practice as referred to in this section shall be taken to mean the seating reference point.

(3) Every vehicle shall have a power driven windshield wiping system that has at least two frequencies or speeds and that has, irrespective of engine speed and engine load,

(a) one frequency or speed of at least 45 cycles per minute;

(b) a difference of at least 15 cycles per minute between the highest and one lower frequency or speed; and

(c) the lower frequency or speed referred to in paragraph (b) equal to at least 20 cycles per minute.

(4) Compliance with subsection (3) shall be demonstrated by testing under the conditions specified in sections 4.1.1 and 4.1.2 of SAE Recommended Practice J903a, (May 1966).

(5) In the case of a passenger car, the windshield wiping system when tested wet in accordance with SAE Recommended Practice J903a, (May 1966), shall wipe the percentage of areas A, B and C of the windshield that

(a) is specified in Column II of whichever of Tables I, II, III or IV to this section is applicable; and

(b) is within the area bounded by a perimeter line on the glazing surface 1 inch from the edge of the daylight opening.

(6) Every vehicle shall have a windshield washing system that meets the requirements of SAE Recommended Practice J942 Passenger Car Windshield Washer Systems, (November 1965), except that the words "the effective wipe pattern defined in SAE J903, paragraph 3.1.2" in paragraph 3.1 of SAE Recommended Practice J942 shall be deleted and,

(a) in the case of a passenger car, the words "the areas established in accordance with the definition of areas A, B and C in subsection (1) of the Canada Motor Vehicle Safety Standard No. 104", and

(b) in the case of a multipurpose passenger vehicle, truck, chassis-cab and bus, the words "the pattern designed by the manufacturer for the windshield wiping system on the exterior surface of the windshield glazing"

shall be substituted therefor.

TABLE I

Passenger cars of less than 60 inches overall width

Column I	Column II	Column III	Column IV	Column V	Column VI
Area	Minimum percentage to be wiped	Angle in degrees			
		Left	Right	Up	Down
A	80	16	49	7	5
B	94	13	46	4	3
C	99	7	15	3	1

TABLE II

Passenger cars of 60 inches or more but less than 64 inches overall width

Column I	Column II	Column III	Column IV	Column V	Column VI
Area	Minimum percentage to be wiped	Angle in degrees			
		Left	Right	Up	Down
A	80	17	51	8	5
B	94	13	49	4	3
C	99	7	15	3	1

TABLE III

Passenger cars of 64 inches or more but less than 68 inches overall width

Column I	Column II	Column III	Column IV	Column V	Column VI
Area	Minimum percentage to be wiped	Angle in degrees			
		Left	Right	Up	Down
A	80	17	53	9	5
B	94	14	51	5	3
C	99	8	15	4	1

TABLE IV

Passenger cars of 68 inches or more overall width

Column I	Column II	Column III	Column IV	Column V	Column VI
Area	Minimum percentage to be wiped	Angle in degrees			
		Left	Right	Up	Down
A	80	18	56	10	5
B	94	14	53	5	3
C	99	10	15	5	1

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978

Hydraulic Brake Systems

105. (1) Every vehicle that is equipped with a hydraulic service brake system, when subjected to Motor Vehicle Safety Test Methods, section 105, 'Hydraulic Brake Systems', (January 1, 1984) in the sequence set out in Table I to this section, shall

(a) in the case of

(i) any passenger car,

(ii) a vehicle with a GVWR of 4 536 kg (10,000 pounds) or less that is a multipurpose passenger vehicle, truck or bus, or

(iii) a school bus with a GVWR of more than 4 536 kg (10,000 pounds),

be capable of meeting the applicable requirements set out in subsections (2) to (23); and

(b) in the case of a vehicle with a GVWR of more than 4 536 kg (10,000 pounds) that is a multipurpose passenger vehicle, truck or bus, except a school bus, be capable of meeting the applicable requirements set out in subsections (2), (3), (7), (9) and (23).

(2) Every vehicle shall be equipped with a service brake system acting on all wheels.

(3) Subject to paragraphs (5)(b) and (d), where a vehicle is incapable of attaining a speed to meet the requirements of subsections (5) to (12) or (22), its service brakes shall be capable of stopping the vehicle from a speed that is the multiple of 8.05 km/h (5 mph) that is 6.44 to 12.88 km/h (4 to 8 mph) less than the speed attainable by the vehicle in 3.22 km (2 miles), within distances that do not exceed the corresponding distances specified in Table II to this section.

(4) If a vehicle is incapable of attaining a speed to meet the requirements of subsections (13) to (18) in the time or distance interval specified therein, it shall be tested at the highest speed attainable in the time or distance interval specified.

(5) The service brakes of every vehicle shall be capable of stopping the vehicle in four effectiveness tests within the distances specified in

(a) column I of Table II to this section from 48.28 and 96.56 km/h (30 and 60 mph) in the first (preburnished) effectiveness test;

(b) column II of Table II to this section from 48.28 and 96.56 km/h (30 and 60 mph) in the second test, except that if the speed attainable in 3.22 km (2 miles) is not less than 135.2 km/h (84 mph), a passenger car shall also stop from 128.75 km/h (80 mph);

(c) column III of Table II to this section from 96.56 km/h (60 mph) when the vehicle is at lightly loaded vehicle weight in the third test, except that the requirements of this paragraph do not apply to vehicles, other than school buses, with a GVWR of not less than 3 629 kg (8,000 pounds) and not more than 4 536 kg (10,000 pounds); and

(d) column I of Table II to this section from 48.28 and 96.56 km/h (30 and 60 mph) in the fourth test, except that the requirements of this paragraph do not apply to vehicles with a GVWR of more than 4 536 kg (10,000 pounds).

(6) In addition to complying with the requirements of paragraph (5) (d), a vehicle that can attain a speed in 3.22 km (2 miles) that is not less than

(a) in the case of a passenger car or other vehicle with a GVWR of 4 536 kg (10,000 pounds) or less, 135.2 km/h (84 mph), shall stop from 128.75 km/h (80 mph), and

(b) in the case of a passenger car, 159.3 km/h (99 mph), shall stop from the applicable speed in the table to this subsection

within the distances specified in column I of Table II to this section.

TABLE

Speed Attainable in 3.22 km (2 miles)	Required to Stop From	
	km/h	mph
not less than 159.3 km/h (99 mph) but less than 167.38 km/h (104 mph)	153	95
167.38 km/h (104 mph) or more	161	100

(7) Except for the brake system on a vehicle manufactured without a split brake system, in the event of a rupture or leakage type of failure in a single subsystem, other than a structural failure of a housing that is common to two or more subsystems, the remaining portion of the service brake system of every vehicle shall continue to operate and be capable of stopping the vehicle from 96.56 km/h (60 mph) within the corresponding distance specified in Column IV of Table II to this section.

(8) The service brakes on a vehicle equipped with one or more brake power assist units or brake power units, with one such unit inoperative and depleted of all reserve capability, shall be capable of stopping the vehicle from 96.56 km/h (60 mph) within the corresponding distance specified in Column IV of Table II to this section.

(9) The service brakes shall be capable of stopping a vehicle equipped

(a) with one or more brake power assist units, at the option of the manufacturer, as specified in subsection (8), (10) or (12); or

(b) with brake power units, at the option of the manufacturer, as specified in subsection (8), (11) or (12).

(10) Subject to subsection (9), the service brakes on a vehicle equipped with one or more brake power assist units shall, when one such unit is inoperative, be capable of stopping the vehicle from 96.56 km/h (60 mph)

(a) in six consecutive stops at an average deceleration rate for each stop that is not lower than that specified in column I of Table III to this section, when the inoperative unit is not initially depleted of all reserve capability; and

(b) in a final stop at an average deceleration rate that is not lower than

(i) in the case of a passenger car, 2.13 m/s^2 (7 fpsps), equivalent stopping distance 168.8 m (554 feet), or

(ii) in the case of any vehicle, other than a passenger car, 1.83 m/s^2 (6 fpsps), equivalent stopping distance 197.0 m (646 feet),

when the inoperative unit is depleted of all reserve capability.

(11) Subject to subsection (9), the service brakes on a vehicle equipped with one or more brake power units with an accumulator-type reserve system, with any one failure in one such unit, shall be capable of stopping the vehicle from 96.56 km/h (60 mph)

(a) in ten consecutive stops at an average deceleration rate for each stop that is not lower than that specified in column II of Table III to this section, when the unit is not initially depleted of all reserve capability; and

(b) in a final stop at an average deceleration rate that is not lower than

(i) in the case of a passenger car, 2.13 m/s^2 (7 fpsps), equivalent stopping distance 168.8 m (554 feet), or

(ii) in the case of any vehicle, other than a passenger car, 1.83 m/s^2 (6 fpsps), equivalent stopping distance 197.0 m (646 feet),

when the failed element of the unit is depleted of all reserve capability.

(12) Subject to subsection (9), the service brakes of a vehicle equipped with one or more brake power assist units, or brake power units with a backup system, with one brake power assist unit or brake power unit inoperative and depleted of all reserve capability and with only the backup system operating in the failed subsystem, shall be capable of stopping the vehicle from 96.56 km/h (60 mph) in fifteen consecutive stops at an average deceleration rate for each stop that is not lower than 3.66 m/s^2 (12 fpsps), equivalent stopping distance 98.4 m (323 feet).

(13) The service brakes shall be capable of stopping every vehicle in two fade and recovery tests as required in subsections (14) to (18).

(14) The control force used for the baseline check stops or snubs shall be not less than 44.48 N (10 pounds), or more than 266.88 N (60 pounds), except that the control force for a vehicle with a GVWR of 4 536 kg (10,000 pounds) or more may be between 44.48 and 400.3 N (10 and 90 pounds).

(15) Every vehicle with a GVWR of 4 536 kg (10,000 pounds) or less shall be capable of making five fade stops on the first test and ten fade stops on the second test from 96.56 km/h (60 mph) at a deceleration rate not lower than 4.57 m/s^2 (15 fpsps) for each stop, followed by five fade stops at the maximum deceleration rate attainable from 1.52 to 4.57 m/s^2 (5 to 15 fpsps) after each test.

(16) Every vehicle with a GVWR greater than 4 536 kg (10,000 pounds) shall be capable of making ten fade snubs on the first test and twenty fade snubs on the second test from 64.37 to 32.18 km/h (40 to 20 mph) at 3.05 m/s^2 (10 fpsps) for each snub.

(17) Every vehicle with a GVWR of 4 536 kg (10,000 pounds) or less shall be capable of making five recovery stops from 48.28 km/h (30 mph) at 3.05 m/s^2 (10 fpsps) for each stop, with a control force application that falls within the following limits:

(a) a maximum for the first four recovery stops of 667.2 N (150 pounds), and for the fifth stop of 88.96 N (20 pounds) more than the average control force for the baseline check stop; and

(b) a minimum for each stop of

(i) the average control force for the baseline check stop minus 44.48 N (10 pounds), or

(ii) the average control force for the baseline check stop times 0.60,

whichever is the lesser, but in no case less than 22.24 N (5 pounds).

(18) Every vehicle with a GVWR of more than 4 536 kg (10,000 pounds) shall be capable of making five recovery snubs from 64.37 to 32.18 km/h (40 mph to 20 mph) at 3.05 m/s^2 (10 fpsps) for each snub, with a control force application that falls within the following limits:

(a) a maximum for the first four recovery snubs of 667.2 N (150 pounds) and for the fifth snub of 88.96 N (20 pounds) more than the average control force for the baseline check stop, but in no case more than 444.8 N (100 pounds); and

(b) a minimum for each snub of

(i) the average control force for the baseline check snub minus 44.48 N (10 pounds), or

(ii) the average control force for the baseline check snub times 0.60,

whichever is the lesser, but in no case less than 22.24 N (5 pounds).

(19) The service brakes shall be capable of stopping every vehicle in a water recovery test as required by subsections (14), (20), and (21).

(20) After being driven for two minutes at a speed of 8.05 km/h (5 mph) in any combination of forward and reverse directions through a trough having a water depth of 152 mm (6 inches), every vehicle with a GVWR of 4 536 kg (10,000 pounds) or less shall be capable of making five recovery stops from 48.28 km/h (30 mph) at 3.05 m/s^2 (10 fpsps) for each stop with a control force application that falls within the following limits:

(a) maximum for the first four recovery stops of 667.2 N (150 pounds) and for the fifth stop of 200.16 N (45 pounds) more than the average control force for the baseline check stop, but in no case more than 400.3 N (90 pounds); and

(b) a minimum for each stop of

(i) the average control force for the baseline check stop minus 44.48 N (10 pounds), or

(ii) the average control force for the baseline check stop times 0.60,

whichever is the lesser, but in no case less than 22.24 N (5 pounds).

(21) After being driven for two minutes at a speed of 8.05 km/h (5 mph) in any combination of forward and reverse directions through a trough having a water depth of 152 mm (6 inches), every vehicle with a GVWR of more than 4 536 kg (10,000 pounds) shall be capable of making five recovery stops from 48.28 km/h (30 mph) at 3.05 m/s^2 (10 fpsps) for each stop with a control force application that falls within the following limits:

(a) a maximum for the first four recovery stops of 667.2 N (150 pounds) and for the fifth stop of 266.88 N (60 pounds) more than the average control force for the baseline check stop, but in no case more than 489.28 N (110 pounds); and

(b) a minimum for each stop of

(i) the average control force for the baseline check stop minus 44.48 N (10 pounds), or

(ii) the average control force for the baseline check stop times 0.60,

whichever is the lesser, but in no case less than 22.24 N (5 pounds).

(22) Every vehicle with a GVWR of 4 536 kg (10,000 pounds) or less shall be capable of making ten spike stops from 48.28 km/h (30 mph), followed by six effectiveness (check) stops from 96.56 km/h (60 mph), at least one of which is within the applicable stopping distance specified in column I of Table II to this section.

(23) A vehicle that is not equipped with a split service brake system shall

(a) in the event of any one rupture or leakage type failure in any component of the service brake system, be capable of stopping ten times consecutively from 96.56 km/h (60 mph) within the applicable distance specified in column IV of Table II to this section;

(b) have sufficient force applied by operation of the service brake control to make the stops specified in paragraph (a); and

(c) be equipped with a warning system that

(i) meets the requirements specified in subparagraph (31)(a)(iv) and paragraphs (31)(b) to (d),

(ii) activates, while the vehicle remains capable of meeting the requirements specified in paragraph (a) and the ignition (start) switch is in the "on" position, a continuous or intermittent audible signal and a flashing warning light that is mounted in front and in clear view of the driver and that displays

(A) a symbol approved by the International Organization for Standardization (ISO) for the purpose of indicating a brake failure, or

(B) a warning that the vehicle should be stopped and information indicating that the brakes have failed in block capital letters not less than 6.4 mm (0.25 inches) in height, and

(iii) remains activated for as long as the condition that caused activation of the warning system exists, whenever the ignition (start) switch is in the "on" position, whether or not the engine is running.

(24) Every vehicle shall be equipped with a parking brake system of a friction type with a solely mechanical means to retain engagement that, when subjected to Motor Vehicle

Safety Test Methods, section 105 "Hydraulic Brake Systems", (January 1, 1984), meets the applicable requirements specified in subsections (25), (26) or (27) when the system is engaged with a force applied to the control that

(a) in the case of a vehicle with a GVWR or 4 536 kg (10,000 pounds) or less, does not exceed 556 N (125 pounds) for a foot-operated system and 400.3 N (90 pounds) for a hand-operated system; and

(b) in the case of a school bus with a GVWR of more than 4 536 kg (10,000 pounds), does not exceed 667.2 N (150 pounds) for a foot-operated system and 556 N (125 pounds) for a hand-operated system.

(25) Subject to subsection (26), the parking brake system on every passenger car and every school bus with a GVWR of 4 536 kg (10,000 pounds) or less shall be capable of holding the vehicle stationary, to the limit of traction of the braked wheels, for five minutes, in both forward and reverse directions, on a thirty per cent grade.

(26) If a vehicle is equipped with a transmission or transmission control that incorporates a parking mechanism and that parking mechanism must be engaged before the ignition key can be removed, that vehicle may, instead of meeting the requirements of subsection (25), meet the following requirements:

(a) the vehicle's parking brake and parking mechanism, when both are engaged, shall hold the vehicle stationary, to the limit of traction of the braked wheels, for five minutes, in both forward and reverse directions, on a thirty per cent grade;

(b) the vehicle's parking brake, with the parking mechanism not engaged, shall be capable of holding the vehicle stationary for five minutes, in both forward and reverse directions, on a twenty per cent grade; and

(c) with the parking mechanism engaged and the parking brake not engaged, the parking mechanism shall not disengage or fracture in a manner permitting vehicle movement, when the vehicle is impacted at each end, on a level surface, by a barrier moving at 4.02 km/h (2.5 mph).

(27) The parking brake system on a multipurpose passenger vehicle, truck or bus, other than a school bus, with a GVWR of 4 536 kg (10,000 pounds) or less or a school bus with a GVWR greater than 4 536 kg (10,000 pounds) shall be capable

of holding the vehicle stationary for five minutes, in both forward and reverse directions, on a twenty per cent grade.

(28) In the event of structural or functional failure in an antilock or variable proportioning brake system, every vehicle shall be capable of meeting the stopping distance requirements specified in subsection (7) for service brake system partial failure.

(29) Every vehicle with a split service brake system shall be equipped with one or more brake system indicator lamps that are mounted in front and in clear view of the driver, and that meet the requirements set out in subsections (30) to (36).

(30) A brake system indicator lamp shall be activated when the ignition (start) switch is in the "on" position and, at the option of the manufacturer, when any of the conditions set out in paragraph (31)(a), (c) or (d) occur or when any of the conditions set out in paragraph (31)(b), (c) or (d) occur.

(31) For the purposes of subsection (30), the following conditions are set out:

(a) loss of pressure, such as that caused by rupture of a brake line but not by a structural failure of a housing that is common to two or more subsystems due to any one of the following conditions, at the manufacturer's option:

(i) before or upon application of a differential pressure of not more than 1 551 kPa (225 p.s.i.) between the active and failed brake system measured at a master cylinder outlet or a slave cylinder outlet,

(ii) before or upon application of 222.4 N (50 pounds) of control force upon a fully manual service brake,

(iii) before or upon application of 111.2 N (25 pounds) of control force upon a service brake with a brake power assist unit, or

(iv) when the supply pressure in a brake power unit drops to a level not less than one-half of the normal system pressure;

(b) a drop in the level of brake fluid in any master cylinder reservoir compartment to

(i) less than the recommended safe level specified by the manufacturer, or

(ii) one fourth of the fluid reservoir capacity of that reservoir compartment,

whichever is greater;

(c) a total functional electrical failure in an antilock system or variable proportioning brake system; and

(d) application of the parking brake.

(32) Every brake system indicator lamp shall be activated as a check of lamp function when

(a) the ignition (start) switch is turned to the "on" position when the engine is not running, or

(b) the ignition (start) switch is in a position between "on" and "start" that is designated by the manufacturer as a check position,

except that in a vehicle equipped with an automatic transmission the check of lamp function need not be activated when the transmission shift lever is in a forward or reverse drive position.

(33) Every brake system indicator lamp when activated owing to a condition set out in subsection (31) shall remain activated as long as that condition exists, whenever the ignition (start) switch is in the "on" position, whether or not the engine is running.

(34) When a brake system indicator lamp is activated, it may burn steadily or flash.

(35) Every brake system indicator lamp shall have a lens labelled in accordance with subsection (36) in letters not less than 3.2 mm (0.125 in.) in height, or symbols, in a contrasting colour to the lens, one colour of which must be red, and shall be legible to the operator in daylight when illuminated.

(36) The lenses of brake system indicator lamps shall be labelled

(a) where a single common indicator is provided

(i) with information indicating a brake failure, in the case of vehicles manufactured before September 1, 1987, or

(ii) with a symbol set out in Table II to section 101 to indicate a brake failure, which use is mandatory in the case of vehicles manufactured after August 31, 1987;

(b) with information indicating the cause of brake failure, if separate indicator lamps are provided for one or more of the functions described in subsection (31);

(c) with information indicating application of the parking brake, if a separate parking indicator lamp is provided; and

(d) with information indicating failure of the antilock system, if a separate antilock system indicator lamp is provided, and one of the contrasting colours shall be yellow.

(37) Every master cylinder shall have a reservoir compartment for each service brake subsystem serviced by the master cylinder, and loss of fluid from one compartment shall not result in the complete loss of brake fluid from any other compartment.

(38) Reservoirs, whether for master cylinders or other type systems, shall have

(a) a total minimum capacity equivalent to the fluid displacement resulting when all the wheel cylinder pistons and caliper cylinder pistons serviced by the reservoirs move from a new lining, fully retracted position, as adjusted initially to the manufacturer's recommended setting, to a fully worn, fully applied position as set out in the test methods;

(b) completely separate compartments for each subsystem except that in reservoir systems utilizing a portion of the reservoir for a common supply to two or more subsystems, individual partial compartments shall each have a minimum volume of fluid equal to at least the volume displaced by the master cylinder piston servicing the subsystem, during a full stroke of the piston; and

(c) for each brake power unit reservoir servicing only the brake system, a minimum capacity equal to the sum of

(i) the fluid displacement required to charge the system pistons or accumulators to normal operating pressure, and

(ii) the displacement resulting when all the wheel cylinder pistons and caliper cylinder pistons serviced by the reservoir or accumulators move from a new lining,

fully retracted position, as adjusted initially to the manufacturer's recommended setting, to a fully worn, fully applied position.

(39) Every vehicle shall have a brake fluid warning statement in letters at least 3.2 mm (0.125 in.) in height that gives information concerning replacement brake fluid and that is

(a) permanently affixed, engraved, or embossed;

(b) located so as to be visible by direct view, either on or within 102 mm (4 in.) of the brake fluid reservoir filler plug or cap; and

(c) of a colour that contrasts with its background, if it is not engraved or embossed.

(40) Every vehicle shall be capable of completing all performance requirements of this section when subjected to the test methods

(a) without detachment or fracture of any component of the braking system, other than minor cracks that do not impair the attachment of the friction facing;

(b) with all mechanical components of the braking system intact and functional;

(c) with friction facing tearout, or complete detachment of lining, not exceeding 10 per cent of the lining on any single frictional element; and

(d) without any visible brake fluid or lubricant on the friction surface of the brake, or leakage at the wheel cylinder, master cylinder or brake power unit reservoir cover, seal and filler openings.

Table I - Brake Test Procedure Sequence and Requirements

No. Sequence	Test Load		Test Procedure	Requirements CMVSS 105
	Light	GVWR		
1			5.2	
2				
3		X	5.3	(5)(a)
4		X	5.4	
5		X	5.5	(5)(b)
6		X	5.6	
7	X	X	5.7	(24)to(27)
8				
9	X		5.8	(5)(c)
10	X	X	5.9	(7)or(23)
11		X	5.10	(8)to(12)
12		X	5.11	(13)to(18)
13		X	5.12	
14		X	5.13	(13)to(18)
15		X	5.14	
16		X	5.15	(5)(d)
17		X	5.16	(19)to(21)
18		X	5.17	(22)
19			5.18	(40)
20		X	5.19	(26)(c)

TABLE III

INOPERATIVE BRAKE POWER ASSIST AND BRAKE POWER UNITS

STOP NO.	Average Deceleration								Equivalent Stopping Distance							
	Column I Brake Power Assist				Column II Brake Power Unit				Column III Brake Power Assist				Column IV Brake Power Unit			
	(a)		(b) and (c)		(a)		(b) and (c)		(a)		(b) and (c)		(a)		(b) and (c)	
	m/s ²	fpsps	m/s ²	fpsps	m/s ²	fpsps	m/s ²	fpsps	metres	feet	metres	feet	metres	feet	metres	feet
1	4.87	16.0	4.27	14.0	4.87	16.0	3.96	13.0	73.7	242	84.5	277	73.7	242	90.9	298
2	3.66	12.0	3.66	12.0	3.96	13.0	3.35	11.0	98.4	323	98.4	323	90.8	298	107.2	352
3	3.05	10.0	3.05	10.0	3.66	12.0	3.05	10.0	118.2	388	118.2	388	98.4	323	118.2	388
4	2.74	9.0	2.59	8.5	3.35	11.0	2.90	9.5	131.3	431	138.9	456	107.2	352	124.6	409
5	2.44	8.0	2.29	7.5	3.05	10.0	2.74	9.0	147.5	484	157.5	517	118.2	388	131.3	431
6	2.29	7.5	2.04	6.7	2.90	9.5	2.59	8.5	157.5	517	176.9	580	124.6	409	138.9	456
7	¹ 2.13	¹ 7.0	¹ 1.83	¹ 6.0	2.74	9.0	2.44	8.0	168.8	554	197.0	646	131.3	431	147.5	484
8	N/A	N/A	N/A	N/A	2.59	8.5	2.29	7.5	N/A	N/A	N/A	N/A	138.9	456	157.5	517
9	N/A	N/A	N/A	N/A	2.44	8.0	2.13	7.0	N/A	N/A	N/A	N/A	147.5	484	168.8	554
10	N/A	N/A	N/A	N/A	2.29	7.5	1.98	6.5	N/A	N/A	N/A	N/A	157.5	517	181.8	596
11	N/A	N/A	N/A	N/A	¹ 2.13	¹ 7.0	¹ 1.83	6.0	N/A	N/A	N/A	N/A	168.8	554	197.0	646

¹ Depleted. N/A = Not applicable.

(a) Passenger cars.

(b) Vehicles other than passenger cars with a GVWR of 4 536 kg (10,000 pounds) or less.

(c) Vehicles with a GVWR greater than 4 536 kg (10,000 pounds).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-374 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1979

Revoked and replaced.

SOR 80-637 5 August, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Paragraph 105(d) of Schedule IV; and subsection 105(18) of Schedule IV preceding paragraph (a).

SOR/86-683 19 June, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective January 1, 1987

Subsections 105(1) and (2) of Schedule IV; subsection 105(5) of the French version of Schedule IV preceding paragraph (b); paragraphs 105(5)(b) and (c) of Schedule IV; paragraph 105(5)(d) of the French version of Schedule IV; subsection 105(6) of Schedule IV; subsection 105(9) of Schedule IV preceding paragraph (a); subsections 105(10) to (12) of Schedule IV; subsection 105(22) of Schedule IV; subsections 105(24) and (25) of Schedule IV; subsection 105(27) of Schedule IV; and Tables II and III to section 105 of Schedule IV.

SOR/86-976 11 September, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 105(36) of Schedule IV.

Hydraulic Brake Hoses

106. (1) In this section

(a) a dimensional description such as

(i) 6.35 mm (1/4 in.) hose, refers to the nominal inside diameter of hose, and

(ii) 6.35 mm (1/4 in.) tubing, refers to the nominal outside diameter of tubing; and

(b) Table V cross references refer to the performance requirements of this section and the appropriate test procedures of the Motor Vehicle Safety Test Methods, section 106, "Brake Hoses" (15 September, 1978).

(2) The manufacturer of a brake hose, brake hose end fitting or brake hose assembly shall file in writing with the Road and Motor Vehicle Traffic Safety Branch, Department of Transport, Transport Canada Building, Place de Ville, Ottawa, Ontario, Canada K1A 0N5, a sample of the designation referred to in subsections (5), (7), (13), (15), (16), (22), (24) and (25).

(3) Every hydraulic brake hose assembly shall have brake hose end fittings that are permanently attached to the hose by deformation of the fitting about the hose by crimping or swaging.

(4) Except for a hydraulic brake hose that is manufactured for use only in an assembly whose end fittings prevent its installation in a twisted orientation in either side of the vehicle, every hydraulic brake hose shall have at least two clearly identifiable stripes not less than 1.6 mm (0.062 in.) in width, placed on opposite sides of the brake hose parallel to its longitudinal axis, of which stripes one may be interrupted by the information required by subsection (5) and the other may be interrupted by additional information at the manufacturer's option.

(5) Subject to subsection (6), every hydraulic brake hose shall be labelled, or cut from bulk hose that is labelled, at intervals of not more than 152.4 mm (6 in.), measured from the end of one legend to the beginning of the next, in block capital letters and numerals at least 3.2 mm (0.125 in.) in height, with the following information:

(a) a designation that identifies the manufacturer of the hose;

(b) the month, day and year, or the month and year, of manufacture, expressed in numerals in that sequence;

(c) the nominal inside diameter of the hose; and

(d) either the letters "HR" to indicate that the hose is regular expansion hydraulic hose or "HL" to indicate that the hose is low expansion hydraulic hose.

(6) Where a hydraulic brake hose has become part of a brake hose assembly or has been installed in a vehicle, the information set out in paragraphs (5)(a) to (d) may be omitted.

(7) Every hydraulic brake hose assembly, unless assembled and installed by a manufacturer in a vehicle manufactured by him, shall, at the manufacturer's option,

(a) have at least one brake hose end fitting that is etched, embossed or stamped with a designation at least 1.6 mm (0.062 in.) in height that identifies the manufacturer of the hose assembly; or

(b) be labelled by means of a band around the brake hose assembly that

(i) is etched, embossed or stamped with a designation at least 3.2 mm (0.125 in.) in height that identifies the manufacturer of the hose assembly, and

(ii) may be attached in such a manner that it will move freely along the length of the assembly as long as it is retained by the end fittings.

(8) No hydraulic brake hose assembly or part thereof need meet any further test requirement after having been subjected to and having met the constriction requirements of paragraph (11)(a) and any one of the requirements specified in paragraphs (9)(a) and (b), subsection (10) and paragraphs (11)(b) to (h).

(9) Every hydraulic brake hose that is subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses" (15 September, 1978), shall

(a) when conditioned at -40°C (-40°F) for 70 hours not show cracks visible without magnification when bent around a cylinder specified in the test method; and

(b) when exposed to ozone for 70 hours at 40°C (104°F) not show cracks visible under 7-power magnification.

(10) Every hydraulic brake hose end fitting that is subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses" (15 September, 1978), shall, after 24 hours of exposure to salt spray, not show base metal corrosion on the end fitting surface except where deformation by crimping or the application of labelling information has caused displacement of the protective coating.

(11) Subject to subsection (8), every hydraulic brake hose assembly with which a vehicle is equipped that is subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses" (15 September, 1978), shall

(a) not constrict the inside diameter of any section of the hydraulic brake hose assembly to less than 64 per cent of the nominal inside diameter of the brake hose, except for that part of an end fitting that does not contain brake hose;

(b) not have a maximum expansion at 6 895 kPa (1,000 psi) and 10 342 kPa (1,500 psi) exceeding the values specified in Table I to this section and shall

(i) withstand hydrostatic pressure of 27 579 kPa (4,000 psi) for 2 minutes without rupture, and

(ii) not rupture under hydrostatic pressure of less than 34 474 kPa (5,000 psi);

(c) not rupture when run continuously on a flexing machine for 35 hours;

(d) withstand a pull of 1 446 N (325 pounds) without separation of the hose from its end fittings;

(e) after immersion in water for 70 hours, withstand hydrostatic pressure of 27 579 kPa (4,000 psi) for 2 minutes and not rupture at less than 34 474 kPa (5,000 psi);

(f) after immersion in water for 70 hours, withstand a pull of 1 446 N (325 pounds) without separation of the hose from its end fittings;

(g) after immersion in water for 70 hours, not rupture when run continuously on a flexing machine for 35 hours; and

(h) except for brake hose assemblies designed for use with mineral-based or petroleum-based brake fluid, after having been subjected to a temperature of 93.3°C (200°F) for

70.hours while filled with SAE RM-1 compatibility brake fluid,

(i) meet the constriction requirement of paragraph (a),

(ii) withstand hydrostatic pressure of 27 579 kPa (4,000 psi) for 2 minutes, and

(iii) not rupture under hydrostatic pressure of less than 34 474 kPa (5,000 psi).

(12) Every air brake hose assembly shall be equipped with permanently attached hose end fittings or reusable brake hose end fittings and each air brake hose intended for use with reusable end fittings shall conform to the dimensional requirements specified in Table II to this section.

(13) Subject to subsection (14), every air brake hose shall be labelled, or cut from bulk hose that is labelled, at intervals of not more than 152.4 mm (6 in.), measured from the end of one legend to the beginning of the next, in block capital letters and numerals at least 3.2 mm (0.125 in.) in height, with the following information:

(a) a designation that identifies the manufacturer of the hose;

(b) the month, day and year, or the month and year, of manufacture, expressed in numerals in that sequence;

(c) the nominal inside diameter of the hose or the nominal outside diameter of the plastic tubing followed by the letters OD; and

(d) the letter "A" to indicate its intended use in air brake systems and in the case of hose intended for use in a reusable assembly, the designation "AI" or "AII" shall indicate Type I or Type II dimensional characteristics of the hose as described in Table II to this section.

(14) Where an air brake hose has become part of a brake hose assembly or has been installed in a motor vehicle, the information set out in paragraphs (13)(a) to (d) may be omitted.

(15) Except for a permanently attached hose end fitting that is attached by deformation of the fitting about a hose by crimping or swaging, at least one component of each air brake hose fitting shall be etched, embossed, or stamped in block capital letters and numerals at least 1.6 mm (0.062 in.) in height with the following information:

(a) a designation that identifies the manufacturer of that component of the fitting;

(b) the nominal inside diameter of the hose or the outside diameter of the plastic tubing to which the fitting is properly attached; and

(c) the letter "A" to indicate its intended use in air brake systems and in the case of an end fitting intended for use in reusable assembly, the designation "AI" or "AII" shall indicate use with Type I or Type II hose, respectively.

(16) Every air brake hose assembly made with end fittings that are permanently attached to a brake hose by crimping or swaging, unless assembled and installed by a manufacturer in a vehicle manufactured by him, shall, at the manufacturer's option,

(a) have at least one brake hose end fitting that is etched, embossed or stamped with a designation at least 1.6 mm (0.062 in.) in height that identifies the manufacturer of the hose assembly; or

(b) be labelled by means of a band around the brake hose assembly that

(i) is etched, embossed or stamped with a designation at least 3.2 mm (0.125 in.) in height that identifies the manufacturer of the hose assembly, and

(ii) may be attached in such a manner that it will move freely along the length of the assembly as long as it is retained by the end fittings.

(17) No air brake hose assembly or part thereof need meet any further requirements after having been subjected to and having met the constriction requirement of paragraph (20)(a) and any one of the requirements set out in paragraphs 18(a) to (g), subsection (19) and paragraphs 20(b) to (e).

(18) Every air brake hose when subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses", (15 September, 1978), shall

(a) not show external or internal cracks, charring or disintegration visible without magnification when straightened after being bent for 70 hours at 100°C (212°F) over a cylinder having the radius set out in Table III to this section for the size of hose tested;

(b) not show cracks in the outer cover that are visible without magnification after conditioning at -40°C (-40°F) for 70 hours when bent around a cylinder having the radius specified in Table III to this section for the size of hose tested;

(c) after immersion in ASTM No. 3 oil for 70 hours at 100°C (212°F), not increase the volume of a specimen prepared from the inner tube and cover more than 100 per cent;

(d) not show cracks in the outer cover that are visible under 7-power magnification after exposure to ozone for 70 hours at 40°C (104°F);

(e) except in the case of a coiled nylon tube, not contract in length more than 7 per cent nor elongate more than 5 per cent when subjected to air pressure of 1 379 kPa (200 psi);

(f) except in the case of hose reinforced by wire, withstand a tensile force of 1 401 N/m (8 pounds per inch) of length before separation of adjacent layers; and

(g) not show cracks in the outer cover that are visible under 7-power magnification after immersion in a 50 per cent zinc chloride aqueous solution for 200 hours.

(19) Every air brake hose end fitting that is subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses" (15 September, 1978), shall, after 24 hours of exposure to salt spray, not show base metal corrosion on the end fitting surface except where deformation by crimping or the application of labelling information causes a displacement of the protective coating.

(20) Subject to subsections (17) and (21), every air brake hose assembly with which a vehicle is equipped that is subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses", (15 September, 1978), shall

(a) not constrict the inside diameter of any section of an air brake hose assembly to less than 66 per cent of the nominal inside diameter of the brake hose, except for that part of an end fitting which does not contain brake hose;

(b) contain air pressure of 1 379 kPa (200 psi) for five minutes without loss of more than 34.5 kPa (5 psi);

(c) not rupture when exposed to hydrostatic pressure of 5 516 kPa (800 psi);

(d) when designed for use between frame and axle or between a towed and a towing vehicle, withstand, without separation of the hose from its end fittings, a pull of

(i) 1 112 N (250 pounds) if it is 6.35 mm (1/4 in.) or less in nominal internal diameter, or

(ii) 1 446 N (325 pounds) if it is larger than 6.35 mm (1/4 in.) in nominal internal diameter;

(e) when designed for use otherwise than as described in paragraph (d), withstand, without separation of the hose from its end fittings, a pull of

(i) 222 N (50 pounds) if it is 6.35 mm (1/4 in.) or less in nominal internal diameter,

(ii) 667 N (150 pounds) if it is 9.53 or 12.7 mm (3/8 or 1/2 in.) in nominal internal diameter, or

(iii) 1 446 N (325 pounds) if it is larger than 12.7 mm (1/2 in.) in nominal internal diameter;

(f) after immersion in distilled water for 70 hours when designed for use between frame and axle or between a towed and a towing vehicle, withstand, without separation of the hose from its end fittings, a pull of

(i) 1 112 N (250 pounds) if it is 6.35 mm (1/4 in.) or less in nominal internal diameter, or

(ii) 1 446 N (325 pounds) if it is larger than 6.35 mm (1/4 in.) in nominal internal diameter; and

(g) after immersion in distilled water for 70 hours when designed for use otherwise than as described in paragraph (f), withstand, without separation of the hose from its end fittings, a pull of

(i) 222 N (50 pounds) if it is 6.35 mm (1/4 in.) or less in nominal internal diameter,

(ii) 667 N (150 pounds) if it is 9.53 or 12.7 mm (3/8 or 1/2 in.) in nominal internal diameter, or

(iii) 1 446 N (325 pounds) if it is larger than 12.7 mm (1/2 in.) in nominal internal diameter.

(21) Coiled nylon brake tubing may be used for connections between a towed and a towing vehicle if

(a) the tubing conforms to the requirements for Type 3B nylon tubing as set out in SAE Standard J844c, "Air Brake Tubing and Pipe", December 1970;

(b) the tubing has a straight segment (pigtail) at each end that is at least 50.8 mm (2 in.) in length and is encased in a spring guard or similar device that prevents the tubing from kinking at the fitting at which it is attached to the vehicle; and

(c) the spring guard or a similar device has at least 50.8 mm (2 in.) of closed coils or any similar device at its interface with the fittings and extends at least 38 mm (1.5 in.) into the coiled segment of the tubing from its straight segment.

(22) Subject to subsection (23), every vacuum brake hose shall be labelled, or cut from bulk hose that is labelled, at intervals of not more than 152.4 mm (6 in.), measured from the end of one legend to the beginning of the next, in block capital letters and numerals at least 3.2 mm (0.125 in.) in height, with the following information:

(a) a designation that identifies the manufacturer of the hose;

(b) the month, day and year, or the month and year of manufacture, expressed in numerals in that sequence;

(c) the nominal inside diameter of the hose or the nominal outside diameter of the plastic tubing followed by the letters OD; and

(d) the letters "VL" or "VH" to indicate that the component is a light-duty vacuum brake hose or a heavy-duty vacuum brake hose, respectively.

(23) Where a vacuum brake hose has become part of a brake hose assembly or has been installed in a vehicle, the information set out in paragraphs (22)(a) to (d) may be omitted.

(24) Except for an end fitting that is attached by heat shrinking or dimensional interference fit with plastic vacuum hose or that is attached by deformation of the fitting about a hose by crimping or swaging, at least one component of each vacuum brake hose fitting shall be etched, embossed or stamped in block capital letters and numerals at least 1.6 mm (0.062 in.) in height with the following information:

(a) a designation that identifies the manufacturer of that component of the fitting;

(b) the nominal inside diameter of the hose or the outside diameter of the plastic tubing to which the fitting is properly attached; and

(c) the letters "VL" or "VH" to indicate that the end fitting is intended for use in a light-duty vacuum brake system or a heavy-duty vacuum brake system, respectively.

(25) Every vacuum brake hose assembly made with end fittings that are attached by crimping or swaging and every plastic tube assembly made with end fittings that are attached by heat shrinking or dimensional interference fit, unless assembled and installed by a manufacturer in a vehicle manufactured by him, shall, at the manufacturer's option,

(a) have at least one end fitting that is etched, embossed or stamped with a designation at least 1.6 mm (0.062 in.) in height that identifies the manufacturer of the assembly; or

(b) be labelled by means of a band around the brake hose assembly that

(i) is etched, embossed or stamped with a designation at least 3.2 mm (0.125 in.) in height that identifies the manufacturer of the hose assembly, and

(ii) may be attached in such a manner that it will move freely along the length of the assembly as long as it is retained by the end fittings.

(26) No vacuum hose assembly or part thereof need meet any further requirements after having been subjected to and having met the constriction requirement of subsection (31) and any one of the requirements set out in paragraphs (27)(a) to (i) and subsection (30).

(27) Subject to subsections (28) to (30), a vacuum brake hose when subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses" (15 September, 1978), shall

(a) not show external or internal cracks, charring or disintegration that are visible without magnification when straightened after being bent for 70 hours at 100°C (212°F) over a cylinder having the radius set out in Table IV to this section for the size of hose tested;

(b) not show cracks in the outer cover that are visible without magnification after conditioning at -40°C (-40°F) for 70 hours when bent around a cylinder having the radius set out in Table IV to this section for the size of hose tested;

(c) not show cracks in the outer cover that are visible under 7-power magnification after exposure to ozone for 70 hours at 40°C (104°F);

(d) not rupture under hydrostatic pressure of 2 413 kPa (350 psi);

(e) not collapse the outside diameter more than 1.6 mm (0.062 in.) when subjected to an internal vacuum of 88 kPa (26 in. of Hg) for five minutes;

(f) not collapse the outside diameter at the middle point of the test length more than the values given in Table IV to this section for the size of hose tested when bent until the ends touch;

(g) following exposure to ASTM Reference Fuel A,

(i) not reduce the inside diameter of any section of hose to less than

(A) 75 per cent of the nominal inside diameter of the hose if for heavy duty use, or

(B) 70 per cent of the nominal inside diameter of the hose if for light duty use, and

(ii) not show leakage or separation of the inner tube from the fabric reinforcement of the hose in a vacuum test of 88 kPa (26 in. of Hg) for ten minutes;

(h) except in the case of wire-reinforced hose, withstand a force of 1 401 N (8 pounds per inch) of length before separation of adjacent layers; and

(i) return to 90 per cent of the original outside diameter of the hose within 60 seconds after five applications of force except that a wire-reinforced hose need only return to 85 per cent of its original outside diameter.

(28) In the case of heavy duty vacuum brake hose, the first of the five applications of force referred to in paragraph (27)(i) shall not exceed a peak value of 311 N (70 pounds) and the fifth of those applications of force shall reach a peak value of at least 178 N (40 pounds).

(29) In the case of light duty vacuum brake hose, the first of the five applications of force referred to in paragraph (27)(i) shall not exceed a peak value of 222 N (50 pounds) and the fifth of those applications of force shall reach a peak value of at least 89 N (20 pounds).

(30) A vacuum brake hose end fitting when subjected to Motor Vehicle Test Methods, section 106, "Brake Hoses" (15 September, 1978), shall, after 24 hours of exposure to salt spray, not show base metal corrosion of the end fitting surface except where crimping or the application of labelling information causes displacement of the protective coating.

(31) Every vacuum brake hose assembly with which a vehicle is equipped that is subjected to Motor Vehicle Safety Test Methods, section 106, "Brake Hoses" (15 September, 1978), shall not constrict the inside diameter of any section of a vacuum brake hose assembly to less than 75 per cent of the nominal inside diameter of the hose if for heavy duty use, or 70 per cent of the nominal inside diameter of the hose if for light duty use, except for that part of an end fitting that does not contain hose.

(32) This section shall come into force on September 1, 1980.

TABLE I

MAXIMUM EXPANSION OF FREE LENGTH BRAKE HOSE, ml/m (ml/ft.)

Hydraulic Brake Hose Inside Diameter	Test Procedure							
	6 895 kPa (1,000 psi)				10 342 kPa (1,500 psi)			
	Regular Expansion Hose		Low Expansion Hose		Regular Expansion Hose		Low Expansion Hose	
3.18 mm (1/8 in) or less	2.17	(0.66)	1.08	(0.33)	2.59	(0.79)	1.38	(0.42)
4.76 mm (3/16 in)	2.82	(0.86)	1.80	(0.55)	3.35	(1.02)	2.36	(0.72)
6.35 mm (1/4 in) or more	3.41	(1.04)	2.69	(0.82)	4.27	(1.30)	3.84	(1.17)

TABLE II

AIR BRAKE HOSE DIMENSIONS FOR REUSABLE ASSEMBLIES

Size, mm (Inches)	Inside Diameter Tolerance, mm (Inches)	Type I Outside Diameter, mm (Inches)		Type II Outside Diameter, mm (Inches)	
		Minimum	Maximum	Minimum	Maximum
4.76(3/16)	+0.66 (0.026) -0.00 (0.000)	11.99 (0.472)	12.95 (0.510)	12.70 (0.500)	13.69 (0.539)
6.35(1/4)	+0.79 (0.031) -0.00 (0.000)	13.59 (0.535)	14.55 (0.573)	14.27 (0.562)	15.29 (0.602)
7.94(5/16)	+0.79 (0.031) -0.00 (0.000)	15.19 (0.598)	16.15 (0.636)	16.66 (0.656)	17.65 (0.695)
9.53(3/8)	+0.58 (0.023)	18.26 (0.719)	19.84 (0.781)	18.26 (0.719)	19.84 (0.781)
10.32(13/32)	+0.79 (0.031) -0.00 (0.000)	18.14 (0.714)	19.30 (0.760)	18.85 (0.742)	20.04 (0.789)
12.7(1/2)	+0.99 (0.039) -0.00 (0.000)	20.52 (0.808)	21.69 (0.854)	22.81 (0.898)	24.00 (0.945)
15.88(5/8)	+1.07 (0.042) -0.00 (0.000)	23.70 (0.933)	24.87 (0.979)	26.77 (1.054)	27.97 (1.101)
12.7(1/2) special	+0.79 (0.031)	21.44 (0.844)	23.01 (0.906)	21.44 (0.844)	23.01 (0.906)

TABLE III

AIR BRAKE HOSE DIAMETERS AND TEST CYLINDER RADIUS

Hose, Nominal diameter in mm (inches)	3.18 (1/8)	4.76 (3/16)	6.35 (1/4)	7.94 (5/16)	9.53 (3/8)	10.32 (13/32)	11.11 (7/16)	12.7 (1/2)	15.88 (5/8)
Radius of test cylinder in mm (inches)	38.10 (1½)	50.8 (2)	63.5 (2½)	76.2 (3)	88.9 (3½)	88.9 (3½)	101.6 (4)	101.6 (4)	114.30 (4½)

TABLE IV

VACUUM BRAKE HOSE TEST REQUIREMENTS

Hose-Inside diameter, mm (inches)	High temperature resistance		Low temperature resistance		Bend (dimension D) mm (inches)	Maximum collapse of outside mm (inches)	Deformation collapsed inside diameter mm (inches)
	Hose length, mm (inches)	Radius of cylinder, mm (inches)	Hose length, mm (inches)	Radius diameter, mm (inches)			
1.56 (7/32)	203.2 (8)	38.10 (1 1/2)	444.5 (17 1/2)	76.2 (3)	177.8 (7)	4.37 (11/64)	1.19 (3/64)
1.35 (1/4)	228.6 (9)	38.10 (1 1/2)	444.5 (17 1/2)	76.2 (3)	203.2 (8)	2.38 (3/32)	1.59 (1/16)
1.14 (9/32)	228.6 (9)	44.45 (1 3/4)	482.6 (19)	88.9 (3 1/2)	228.6 (9)	4.76 (3/16)	1.59 (1/16)
0.73 (11/32)	228.6 (9)	44.45 (1 3/4)	482.6 (19)	88.9 (3 1/2)	279.4 (11)	5.16 (13/64)	1.98 (5/64)
0.53 (3/8)	254.0 (10)	44.45 (1 3/4)	482.6 (19)	88.9 (3 1/2)	304.8 (12)	3.97 (5/32)	2.38 (3/32)
1.11 (7/16)	279.4 (11)	50.80 (2)	520.7 (20 1/2)	101.6 (4)	355.6 (14)	6.75 (17/64)	1.98 (5/64)
1.91 (15/32)	279.4 (11)	50.80 (2)	520.7 (20 1/2)	101.6 (4)	355.6 (14)	6.75 (16/64)	1.98 (5/64)
1.7 (1/2)	279.4 (11)	50.80 (2)	520.7 (10 1/2)	101.6 (4)	406.4 (16)	5.56 (7/32)	3.18 (1/8)
1.88 (5/8)	304.8 (12)	57.15 (2 1/4)	558.8 (22)	114.3 (4 1/2)	558.8 (22)	5.56 (7/32)	3.97 (5/32)
1.05 (3/4)	355.6 (14)	63.50 (2 1/2)	609.6 (24)	127.0 (5)	711.2 (28)	5.56 (7/32)	4.76 (3/16)
2.4 (1.0)	406.4 (16)	82.55 (3 1/4)	723.9 (28 1/2)	165.1 (6 1/2)	914.4 (36)	7.14 (9/32)	6.35 (1/4)

TABLE V
BRAKE HOSE TESTS AND PROCEDURES

HYDRAULIC BRAKE HOSE

TEST	Test Method Procedure	Requirements CMVSS 106
Constriction	3.7	(11)(a)
Expansion and Burst	3.1, 3.2	(11)(b)
Whip Resistance	3.3	(11)(c)
Tensile Strength	3.4	(11)(d)
Water Absorption and Burst	3.5	(11)(e)
Water Absorption and Tensile Strength	3.5	(11)(f)
Water Absorption and Whip Resistance	3.5	(11)(g)
Low Temperature Resistance and Flexibility	3.6	(9)(a)
Brake Fluid Compatibility, Restriction and Burst	3.7	(11)(h)
Ozone	3.8	(9)(b)
End Fitting, Corrosion Resistance	3.9	(10)

AIR BRAKE HOSE

TEST	Test Method Procedure	Requirements CMVSS 106
Constriction		(20)(a)
High Temperature Resistance	4.1	(18)(a)
Low Temperature Resistance	4.2	(18)(b)
Oil Resistance	4.3	(18)(c)
Ozone Resistance	4.4	(18)(d)
Length Change	4.5	(18)(e)
Adhesion	4.6	(18)(f)
Air Pressure	4.7	(20)(b)
Burst Strength	4.8	(20)(c)
Tensile Strength	4.9	(20)(d)(e)
Water Absorption and Tensile Strength	4.10	(20)(f)(g)
Zinc Chloride	4.11	(18)(g)
End Fitting Corrosion	4.12	(19)
Coiled Nylon Tubing		(21)

TABLE V (End)
BRAKE HOSE TESTS AND PROCEDURES

VACUUM BRAKE HOSE		
TEST	Test Method Procedure	Requirements CMVSS 106
Constriction		(31)
High Temperature Resistance	5.1	(27)(a)
Low Temperature Resistance	5.2	(27)(b)
Ozone Resistance	5.3	(27)(c)
Burst Strength	5.4	(27)(d)
Vacuum Test	5.5	(27)(e)
Bend Test	5.6	(27)(f)
Swell Test	5.7	(27)(g)
Adhesion	5.8	(27)(h)
	5.9	(27)(i),
Deformation		(28), (29)
End Fitting Corrosion	5.10	(30)

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-677 24 September, 1979 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Section 106 of Schedule IV.

SOR/79-907 27 November, 1979 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Section 106 of Schedule IV by adding subsection 106(32).

Reflecting Surfaces

107. (1) In this section,

“field of view” means the space forward of a transverse vertical plane tangent to the rearmost boundary of the SAE 99th percentile eye range contour of SAE Recommended Practice J941a Passenger Car Driver's Eye Range, (August 1967);

“specular gloss” means the luminous fractional reflectance of a specimen at the specular direction.

(2) Within the driver's field of view, the specular gloss of the surface of the bright metal materials used on any vehicle for the

(a) windshield wiper arms and blades,

(b) inside windshield mouldings,

(c) horn ring and hub of steering wheel assembly, and

(d) inside rearview mirror frame and mounting bracket,

shall not exceed 40 units when measured by the 20 degree method of ASTM D 523-62T (June 1962).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Lighting Equipment

108. (1) Every vehicle shall be equipped with not less than the number of lamps and reflective devices and the items of associated equipment specified for that vehicle in Tables I and III to this section and such lamps, reflective devices and items of associated equipment shall be designed to meet the requirements of the standards referred to therein.

(2) Notwithstanding subsection (1),

(a) headlamps and transparent covers, if fitted, shall, when subjected to any of the tests referred to in Table VII to this section and specified in the Motor Vehicle Safety Test Methods, Section 108 ``Lighting Equipment'', (April 1, 1984), meet the requirements of subsections (24) and (25) at all photometric test points specified in Table 1 or 2 of SAE Standard J579c, ``Sealed Beam Headlamp Units for Motor Vehicles'', (December 1974) and, in addition,

(i) after the chemical resistance test referred to in Table VII to this section, there shall be no surface deterioration, coating delamination, fracture, deterioration of bonding materials, colour bleeding or colour pick-up visible without magnification,

(ii) after the corrosion test referred to in Table VII to this section,

(A) there shall be no external or internal corrosion or rust visible without magnification on components essential for photometric performance,

(B) there shall be no loss of adhesion of any external or internal applied coating except within 3 mm of any sharp edge, and

(C) the connector test current shall be not less than 9.7 A,

(iii) after the humidity test referred to in Table VII to this section, there shall be no delamination of any applied coating nor any moisture, fogging or condensation visible without magnification within the headlamp,

(iv) after the internal heat test referred to in Table VII to this section, there shall be no distortion of the headlamp lens greater than 3 mm, measured in the photometric axis at its intersection with the exterior surface of the lens,

(v) after the temperature cycle test referred to in Table VII to this section,

(A) there shall be no delamination of any applied coating, fractures, entry of moisture, deterioration of bonding material, colour bleeding, warping or deformation visible without magnification, and

(B) there shall be no distortion of the headlamp lens greater than 3 mm, measured in the photometric axis at its intersection with the exterior surface of the lens;

(b) after the vibration test specified in the Motor Vehicle Safety Test Methods, Section 108, "Lighting Equipment", (April 1, 1984), a headlamp shall show no evidence of loose or broken parts visible without magnification, except that the filament or filaments may break;

(c) subject to paragraph (aa), tail lamps, stop lamps or turn signal lamps need not meet the minimum luminous intensities at each test point specified in the SAE Standards applicable to such lamps referred to in Tables I and III to this Section if the sum of the luminous intensities measured at the test points within the groups listed in Table V to this section is not less than the group total value for such test points given in Table V to this section;

(d) the photometric requirements for tail lamps, stop lamps or turn signal lamps may be met by a combination of compartments or lamps if the sum of the luminous intensities measured at the test points within the groups listed in Table V to this section is not less than the group total value for such test points for the applicable combination shown in Table V to this section;

(e) the luminous intensities of tail lamps, stop lamps and turn signal lamps shall not exceed the maximum values given in Table V;

(f) turn signal lamps may be designed to meet the photometric requirements of Table 1 of SAE Standard J588f, "Turn Signal Lamps", (April 1978), instead of Table 1 of SAE Standard J588e, (September 1970);

(g) a stop lamp that is not optically combined with a turn signal lamp shall remain activated when the turn signal is flashing and the service brakes are applied;

(h) reflective material conforming to the requirements of Canadian Government Specifications Board Standard CGSB 62-GP-11, "Marking Material, Retroreflective Enclosed Lens, Adhesive Backing", (May 1975), may be used for side reflex reflectors if that material, as used on the vehicle, meets the performance standards in Table 1 of SAE Standard J594e, "Reflex Reflectors", (March 1970);

(i) multiple licence plate lamps and backup lamps may be used to fulfill the requirements of the SAE Standards applicable to such lamps referred to in Tables I and III to this section;

(j) backup lamps need not meet the minimum luminous intensities at each test point specified in Table 1 of SAE Standard J593c, "Backup Lamps", (February 1968), if the sum of the luminous intensities measured at the test points within the groups listed in Table VI to this section is not less than the group total value for such test points given in Table VI to this section;

(k) combination turn signal and hazard warning signal flashers shall meet the requirements of both SAE Standard J590b, "Automotive Turn Signal Flashers", (October 1965), and SAE Standard J945, "Vehicular Hazard Warning Signal Flasher", (February 1966), when tested consecutively;

(l) the lowest voltage drop measured between the input and load terminals for turn signal flashers and hazard warning signal flashers shall not exceed 0.8 volts;

(m) variable load turn signal flashers shall comply with voltage drop and durability requirements when the maximum design load is connected and shall comply with starting time, flash rate, and percent current "on" time requirements when both the minimum and the maximum design loads are connected;

(n) every plastic material used for a lens reflector or other optical part shall conform to SAE Recommended Practice J576c, "Plastic Materials for Use in Optical Parts, such as Lenses and Reflectors, of Motor Vehicle Lighting Devices", (May 1970), except that:

(i) plastic material that is

(A) used as an inner lens, or

(B) covered by some other material and not exposed directly to sunlight

shall meet the applicable requirements of paragraphs 3.4 and 4.2 of SAE Recommended Practice J576c when covered by the outer lens or other material,

(ii) for lamp lenses the haze and loss of surface lustre after the outdoor exposure test set out in ASTM D 1003-61, "Haze and Luminous Transmittance of Transparent Plastics", (1977), shall not be greater than 30 per cent haze, and

(iii) after the outdoor exposure test, plastic materials used for reflex reflectors shall meet the appearance requirements of paragraph 4.2.2 of SAE Recommended Practice J576c;

(o) a lamp that is designed to use a type of bulb that has not been assigned a mean spherical candlepower rating by its manufacturer, and is not listed in SAE Standard J573d "Lamp Bulbs and Sealed Units", (December 1968), shall meet the applicable requirements of this section when used with any bulb of the type specified by the lamp manufacturer and operated at the design voltage of that bulb;

(p) a lamp, other than a headlamp, that contains a sealed-in bulb shall meet the applicable requirements of this section when the bulb is operated at the voltage at which the bulb is designed to operate;

(q) every lamp, other than a lamp having a sealed-in bulb, shall meet the applicable requirements of this section when tested with a bulb whose filament is positioned within 0.25 mm (0.010 inch) of the nominal design position specified

(i) in SAE Standard J573d, "Lamp Bulbs and Sealed Units" (December 1968), or

(ii) by the bulb manufacturer;

(r) for every passenger car, multipurpose passenger vehicle, truck or bus of less than 2 m (80 inches) in overall width

(i) the turn signal operating unit

(A) shall be self-cancelling, and

(B) shall be designed to complete a durability test of 100,000 cycles, and

(ii) parking lamps need not meet the minimum luminous intensities at each test point specified in Table I of SAE Standard J222, "Parking Lamps (Position Lamps)", (December 1970), if the sum of the luminous intensities measured at the test points within the groups listed in Table V to this section is not less than the group total value for such test points given in Table V to this section;

(s) on vehicles of less than 9.1 m (30 feet) in overall length,

(i) intermediate side marker devices are not required, and

(ii) the minimum luminous intensity requirements for side marker lamps specified in SAE Standard J592e, "Clearance, Side Marker and Identification Lamps", (July 1972), may be met for all inboard test points at a distance of 4.6 m (15 feet) from the vehicle and on a vertical plane that is perpendicular to the longitudinal axis of the vehicle and located midway between the front and rear side marker lamps;

(i) turn signal lamps mounted on the rear if the turn signal lamps at or near the front are of double-faced construction and so located that they meet the requirements for double-faced turn signal lamps specified in SAE Standard J588e, "Turn Signal Lamps", (September 1970), and

(ii) any rear side marker devices, rear clearance lamps or rear identification lamps;

(u) a trailer of less than 760 mm (30 inches) overall width shall be equipped with at least one tail lamp, stop lamp and rear reflex reflector, located at or near the vertical centre line;

(v) a trailer of less than 1.8 m (6 feet) overall length including the trailer tongue, need not be equipped with front side marker lamps and front side reflex reflectors;

(w) a boat trailer need not be equipped with both front and rear clearance lamps if a clearance lamp with a yellow face pointing to the front and a red face pointing to the rear is located at or near the midpoint on each side of the trailer so as to indicate its extreme width;

(x) a pole trailer or a cable reel trailer shall be equipped with at least tail lamps, stop lamps, turn signal lamps and rear reflectors and associated equipment;

(y) a motorcycle may be equipped with a headlamp or headlamps that are designed to meet the requirements of SAE Standard J579c (December 1974) and that provide

(i) not less than one upper beam and one lower beam, and

(ii) not more than two upper beams and two lower beams;

(y.1) a limited-speed motorcycle may be equipped with a headlamp that meets the requirements stipulated for a motor driven cycle in SAE Standard J584 (April 1964).

(z) every turn signal lamp on a motorcycle and every stop lamp on a motorcycle the maximum speed of which on level ground is 50 km/h (30 m.p.h.) or less

(i) shall have an²effective projected luminous area of not less than 23 cm² (3.5 square inches), and

(ii) shall be designed to meet, as a minimum, one-half of the minimum luminous intensities at each test point specified in the applicable SAE Standard given in Table III;

(aa) notwithstanding subparagraph (z)(ii),

(i) turn signal lamps on motorcycles, and

(ii) stop lamps on motorcycles the maximum speed of which on level ground is 50 km/h (30 m.p.h.) or less

need not meet the maximum luminous intensities at each test point if the sum of the luminous intensities measured at the test points within the groups listed in Table V to this section is not less than one-half of the group total value for such test points given in that Table;

(cc) transparent covers may be fitted in front of headlamps, if

(i) the design requirements of section 3 of SAE Standard J579c (December 1974) are met with the transparent covers in place, with a re-aim of not more than 0.25 degrees permitted at any test point,

(ii) the requirements of paragraph (a) are met by the transparent covers and headlamps in combination,

(iii) after the moisture test set out in the Motor Vehicle Safety Test Methods, Section 108 ``Lighting Equipment'', (April 1, 1984), there is no moisture accumulation in excess of 2 ml on the headlamp, the interior surface of the transparent cover and the body surfaces forming the cavity between the headlamp and its transparent cover,

(iv) the luminous intensity at test point H-V, provided by a transparent cover and a headlamp in combination, is not less than 90 per cent of the light intensity provided by the headlamp alone,

(v) the transparent covers are hinged or removable with a screwdriver, tools supplied with the vehicle or without the use of tools to enable the headlamps to be cleaned, aimed and replaced,

(vi) the owner's manual supplied with the vehicle contains

(A) instructions concerning the criteria for cleaning and the method of removal and replacement, or opening and closing, of the transparent covers, and

(B) information concerning the specific headlamp type to be used upon replacement, its ANSI trade number or other identification and, if applicable, a warning that other headlamp types that are mechanically interchangeable with the original headlamps and that would not meet the luminous intensity requirements of SAE J579c (December 1974) when operated in combination with transparent covers do not provide adequate illumination and should not be used;

(dd) lamps and reflective devices that

(i) are contained within the same physical assembly as a headlamp, and

(ii) meet the requirements of paragraph (2)(a) with respect to the dust test, humidity test and corrosion test specified in the Motor Vehicle Safety Test Methods, Section 108, ``Lighting Equipment'', (April 1, 1984),

need not be subjected to the dust test, moisture test and corrosion test specified in SAE Standard J575d, ``Tests for Motor Vehicle Lighting Devices and Components'', (August 1967);

(ee) headlamps need not be designed to comply with section 3.4 of SAE Standard J579c (December 1974) and sections 4 and 5.2 of SAE Standard J580 (August 1979);

(ff) replaceable bulb headlamps need not be designed to comply with section 6.3 of SAE Standard J580 (August 1979);

(gg) each headlamp that is designed to provide,

(i) at each test point of the upper beam, the sum of the two luminous intensities specified for each test point in the columns entitled ``Upper beam Type 1 or 1A'' and ``Upper beam Type 2 or 2A'' of Table 2 of SAE Standard J579c (December 1974), or

(ii) at each test point of the lower beam, the luminous intensities specified for those test points in SAE Standard J579c (December 1974), except, at test point 0.5D, 1.5L to L, a luminous intensity not greater than 3,000 cd,

shall be deemed to be designed to comply with the photometric requirements of SAE Standard J579c (December 1974) for the purposes of this section;

(hh) each upper beam or lower beam on a vehicle equipped with four headlamps may be provided by two adjacent headlamps operating in combination, if

(i) the total luminous intensity at each test point provided by the said headlamps operating in combination is designed to comply with the photometric requirements of Table 1 or Table 2 of SAE Standard J579c (December 1974), and

(ii) the design luminous intensity of each test point of each headlamp is provided to the Director General, Road Safety and Motor Vehicle Regulation Directorate, Department of Transport, Ottawa, Ontario, K1A 0N5 by the vehicle manufacturer at the request of the Director General;

(ii) the minimum horizontal aiming adjustment range of headlamps on which the aiming planes and the mounting planes are coincident shall be not less than ± 2.5 degrees, provided that the vehicle equipped with the headlamps has no separate chassis frame;

(jj) adjacent headlamps on vehicles fitted with four headlamps need not be independently aimable, if

(i) the aiming planes and seating planes of both headlamps are coincident, or

(ii) the headlamps are contained within one indivisible assembly in which the positions of all lenses and reflectors are fixed.

(kk) daytime running lamps are not required on vehicles manufactured before December 1, 1989; and

(ll) vehicles manufactured on or after September 1, 1988 and before December 1, 1989 and equipped with daytime running lamps shall meet the applicable requirements of paragraph (7)(a), subsections (12), (16) to (16.4), paragraph (19)(b) and subsections (38) to (41).

(3) Every restricted-use motorcycle, other than a competition motorcycle, shall be equipped with reflex reflectors as if it were a motorcycle.

(3.1) Snowmobile cutters shall be equipped with

(a) one or two Class A red reflex reflectors on the vertical rear centreline or symmetrically disposed about the vertical rear centreline and not less than 20 cm above the ground in accordance with SAE Recommended Practice J292, "Snowmobile and Snowmobile Cutter Lamps, Reflective Devices and Associated Equipment", (March 1973); and

(b) two reflectors, one on each side at the mid-point of the cutter and not less than 20 cm above the ground, that are

(i) Class A red reflex reflectors in accordance with SAE Recommended Practice J292, "Snowmobile and Snowmobile Cutter Lamps, Reflective Devices and Associated Equipment", (March 1973), or

(ii) composed of reflex reflective material of a minimum area as projected in side elevation of 100 cm² in accordance with Type I or II, Class 1 or 3 materials of any colour or colour combination within the colour range of Table I of Canadian General Standards Board CGSB 62-GP-11P and with a reflective intensity value of Level 1 as specified in Table 2 of the said Standard.

(4) Every school bus shall be equipped with

(a) four red signal lamps designed to conform to SAE Standard J887 "School Bus Red Signal Lamps", (July 1964), and that are installed in accordance with that Standard, except that the aiming pads on the lens face and

the black area surrounding the signal lamp need not be present; and

(b) a flasher designed to conform to SAE Standard J1054, ``Warning Lamp Alternating Flashers'', (September 1973).

(5) For purposes of determining whether the flasher referred to in paragraph (4)(b) conforms to the performance and durability requirements of SAE Standard J1054, ``Warning Lamp Alternating Flashers'', (September 1973), the sampling procedure set out in SAE Standard J590b, ``Automotive Turn Signal Flashers'', (October 1965), shall be followed.

(6) Every lamp, reflective device and item of associated equipment shall be securely mounted on a rigid part of the vehicle other than glazing that is not designed to be removed except for repair, in accordance with the requirements of Table I or III to this section and in locations specified in Table II or IV to this section as applicable.

(7) Notwithstanding subsection (6),

(a) every lamp and reflective device shall be located so that it meets the visibility requirements specified in any applicable SAE Standard or Recommended Practice or, where applicable, in paragraph (38)(j), and no part of the vehicle shall prevent a parking lamp, tail lamp, stop lamp, centre high-mounted stop lamp, turn signal lamp or backup lamp from meeting, at any applicable group of test points, the luminous intensity requirements specified in Tables V, VI or IX to this section, or prevent a daytime running lamp or any other lamp from meeting the luminous intensity requirements at any test point specified in subsection (38) or any applicable SAE Standard or Recommended Practice;

(b) on a truck tractor

(i) clearance lamps mounted on the cab may be located to indicate the width of the cab, rather than the overall width of the vehicle, and

(ii) the red rear reflex reflectors may be mounted on the back of the cab, at a minimum height of 100 mm (4 inches) above the height of the rear tires;

(c) on a trailer, the yellow front side reflex reflectors and yellow front side marker lamps may be located as far forward as practicable, exclusive of trailer tongue;

(d) where rear identification lamps are mounted at the extreme height of a vehicle, rear clearance lamps need not be located as close as practicable to the top of the vehicle;

(e) the requirement that there be not less than 100 mm (4 inches) between a front turn signal lamp and a low beam headlamp, as specified in SAE Standard J588e, "Turn Signal Lamps", (September 1970), shall not apply if the sum of the luminous intensities of the turn signal lamp measured at the test points within the groups listed in Table V to this section is not less than two and one-half times the group total values for such test points for yellow front turn signal lamps specified in that Table;

(f) the centre of the lens referred to in SAE Standard J593c, "Backup Lamps", (February 1968), shall be deemed for the purpose of this section to be the optical centre; and

(g) on a passenger car, the centre high-mounted stop lamp

(i) may be mounted on the rear window,

(ii) shall, if mounted inside the vehicle, be provided with a means of minimizing any reflections from the lamp on the rear window that may be visible to the driver when viewed directly or indirectly in the rearview mirror, and

(iii) shall be mounted so that no part of the lens is lower than

(A) 77 mm below the rear window of passenger cars other than convertibles, and

(B) 153 mm below the rear window of convertibles.

(8) Where motor vehicle components or equipment including mirrors, snow plows, wrecker booms, backhoes and winches, prevent any required lamp or reflective device from meeting the requirements of paragraph (7)(a), an auxiliary lamp or device meeting those requirements shall be provided.

(9) Notwithstanding paragraph (7)(a), clearance lamps may be mounted at a location other than on the front and rear if necessary to indicate the overall width of a vehicle, or for protection from damage during normal operation of the vehicle, and at such a location that they need not be visible at 45 degrees inboard.

(10) No additional lamp, reflective device or other motor vehicle equipment that impairs the effectiveness of lighting equipment required by this section shall be installed on a vehicle.

(11) The words ``should'', ``recommended'' and ``recommendations'' appearing in any SAE Standard or Recommended Practice referred to in this section or in any such SAE Standard or Recommended Practice shall be read for the purposes of this section as setting forth mandatory requirements.

(12) The colour in all lighting equipment required by this section shall meet the requirements of SAE Standard J578d, ``Color Specification for Electric Signal Lighting Devices'' (September 1978).

(13) Warpage tests for plastic lenses required by SAE Standards referred to in this section are not required for the purpose of this section.

(14) Lamps, reflective devices, or items of associated equipment may be combined in any quantity to meet the requirements of subsection (1) for the function of each lamp, reflective device or item of associated equipment, except that

(a) no clearance lamp may be optically combined with any tail lamp or identification lamp; and

(b) no lamp, reflective device or item of associated equipment may be optically combined with any centre high-mounted stop lamp.

(15) Every vehicle on which headlamps are required, other than a motorcycle the maximum speed of which on level ground is 50 km/h (30 m.p.h.) or less that is fitted with a single beam headlamp, shall have

(a) a means of switching between lower and upper headlamp beams that conforms to SAE Recommended Practice J564a, ``Headlamp Beam Switching'', (April 1964), or to SAE Recommended Practice J565b, ``Semiautomatic Headlamp Beam Switching Devices'', (February 1969); and

(b) a headlamp upper beam tell-tale that conforms to section 101 or section 123 of this schedule, as applicable.

(16) Every vehicle shall be so designed that its daytime running lamps are on continuously when

- (a) the engine is operating; and
- (b) the master lighting switch is not in the "headlamps on" position.

(16.1) Notwithstanding subsection (16), a vehicle may be designed so that the daytime running lamps switch off

- (a) whenever the automatic transmission shift control is in the "park" or "neutral" position;
- (b) whenever the parking brake is applied; or
- (c) after the engine is started but prior to the vehicle being set in motion for the first time.

(16.2) Every vehicle shall be so designed that its daytime running lamps shall switch off whenever the master lighting switch is moved to the "headlamps on" position.

(16.3) When the lower beams of the headlamps operating at regular voltage are used as daytime running lamps,

- (a) the lamps listed in paragraph (17)(a) shall come on and remain on; and
- (b) it shall not be possible to activate the upper beams of the headlamps except for signalling purposes as described in paragraph (19)(b).

(16.4) When lamps other than the lower beams of the headlamps operating at regular voltage are used as daytime running lamps, any lamp listed in paragraph (17)(a) and any illumination required by subsections 101(4), (7) and (8) may come on and remain on.

(17) The electrical connections on every passenger car, multipurpose passenger vehicle, truck and bus shall be such that

- (a) any side marker lamps, tail lamps, licence plate lamp and parking lamps fitted on the passenger car, multipurpose passenger vehicle, truck or bus cannot be switched on or off other than simultaneously; and
- (b) no headlamps, front fog lamps or rear fog lamps fitted on the passenger car, multipurpose passenger vehicle, truck or bus may be switched on in a steady-burning state unless all lamps referred to in paragraph (a) are also switched on.

(18) The headlamp, tail lamp and licence plate lamp on every motorcycle shall be continuously illuminated when any forward gear of the motorcycle is engaged and the engine is operating.

(19) When activated

(a) turn signal lamps, hazard warning signal lamps and school bus warning lamps shall flash; and

(b) notwithstanding subsection (16), all other lamps shall be steady-burning, except that

(i) for signalling purposes, means may be provided to flash headlamps, daytime running lamps and side marker lamps,

(ii) a centre high-mounted stop lamp may, if the rear hazard warning signal lamps are red, flash when those signal lamps are activated,

(iii) a daytime running lamp that is optically combined with a front turn signal lamp shall switch off when that turn signal lamp is switched on, and

(iv) daytime running lamps that are optically combined with the front hazard warning signal lamps shall switch off when the hazard warning signal lamps are switched on.

(20) Stop lamps on every vehicle and the centre high-mounted stop lamp on every passenger car shall be activated on application of the service brakes.

(21) The vehicular hazard warning signal operating unit on every vehicle shall

(a) operate independently of the ignition or equivalent switch; and

(b) when activated, cause to flash simultaneously sufficient turn signal lamps to meet the turn signal lamp photometric requirements of this section.

(22) Every vehicle equipped with a turn signal operating unit shall have an illuminated pilot indicator and failure of one or more turn signal lamps to operate shall be indicated by that pilot indicator in accordance with SAE Standard J588e, "Turn Signal Lamps", (September 1970), except where a variable-load turn signal flasher is used

(a) on a truck, bus or multipurpose passenger vehicle of 2 m (80 inches) or more in overall width;

(b) on a truck that is capable of accommodating a slide-in camper; or

(c) on any vehicle equipped to tow trailers.

(23) The identifying marks, electrical characteristics, illumination characteristics and dimensional specifications for the filament location, mounting base and socket of every bulb and sealed beam lamp used in lighting equipment required by this section for a vehicle shall be

(a) specified for the type of bulb in

(i) a standard or recommended practice issued by the Society of Automotive Engineers (SAE),

(ii) a regulation issued by the Economic Commission for Europe (ECE), or

(iii) a standard issued by the International Electro-technical Commission (IEC); or

(b) provided to the Director General, Road Safety and Motor Vehicle Regulation Directorate, Department of Transport, Ottawa, Ontario, K1A 0N5 by the vehicle manufacturer at the request of the Director General.

(24) The luminous intensity measured at each test point following the application of any test referred to in Table VII to this section to a headlamp or a transparent cover shall not differ by more than 10 per cent from

(a) the range of luminous intensities specified in SAE Standard J579c (December 1974) for that test point; or

(b) the luminous intensity measured at the same test point prior to the application of the test.

(25) Notwithstanding subsection (24), the luminous intensity measured at not more than one test point of a headlamp need not meet the requirement specified in subsection (24).

(26) Headlamps on a vehicle shall be fitted with aiming pads or aiming rings and shall be so designed that their aim may be inspected and adjusted by means of mechanical aimers that conform to SAE Standard J602 (October 1980), "Headlamp Aiming Device for Mechanically Aimable Sealed Beam Headlamp Units", (October 1980),

(a) without the removal of any components; or

(b) with the removal of not more than two components from that vehicle with a screwdriver, tools supplied with the vehicle or without tools.

(27) Aiming pads on headlamps of a shape not specified in an SAE Standard in respect of headlamp dimensions shall be located in frontal elevation as specified in Figure 6 of SAE Standard J571 (February 1981), "Dimensional Specifications for Sealed Beam Headlamp Units", or Figure 1 of SAE Standard J1132, "142 mm x 200 mm Sealed Beam Headlamp Unit", (January 1976).

(28) On every vehicle on which the planes containing the headlamp aiming pads specified in subsections (26) and (27) are not nominally vertical and perpendicular to the longitudinal axis of the vehicle, the numerical settings that shall be used in the application of adjustable aiming adapters to the headlamps shall be molded into the headlamp lenses in figures 6.35 ± 0.80 mm in height.

(29) For purposes of determining compliance of headlamps on motorcycles with the requirements of this section, there shall be read for the expressions "SAE Standard J579c (December 1974)" and "Table 1 or 2 of SAE Standard J579c (December 1974)", where they appear in paragraphs (2)(a) and (cc) and subsection (24), the expression "SAE Standard J584 (April 1964)".

(30) The glass envelope of each replaceable headlamp bulb shall not, when subjected to the bulb deflection test procedure set out in the Motor Vehicle Safety Test Methods, Section 108, "Lighting Equipment" (April 1, 1984), deflect permanently more than 0.13 mm with respect to the base of the bulb.

(31) A vehicle equipped with

(a) four Type 1 headlamps or four Type 2 headlamps, and

(b) identical electrical connectors for all headlamps on the vehicle,

shall be so designed that each headlamp may be connected only to one electrical connector.

(32) Notwithstanding paragraph (2)(a),

(a) headlamps with glass lenses and transparent covers made of glass need not be subjected to the abrasion test,

chemical resistance test and temperature cycle test referred to in Table VII;

(b) headlamps used in conjunction with transparent covers need not be subjected to the abrasion test referred to in Table VII;

(c) headlamps fitted to motorcycles need not be subjected to the corrosion test, dust test and humidity test referred to in Table VII; and

(d) headlamps with glass lenses, non-plastic reflectors and, if applicable, non-plastic housings need not be subjected to the internal heat test referred to in Table VII to this section.

(33) Notwithstanding paragraph (2)(a),

(a) bonded construction sealed beam headlamps with plastic lenses fitted to vehicles manufactured prior to September 1, 1986, and

(b) headlamps with plastic lenses fitted to motorcycles, motor driven cycles and mopeds manufactured prior to September 1, 1986

need not comply with the tests referred to for such headlamps in Table VII to this section, if the owner's manual of every vehicle equipped with such headlamps contains

(c) information concerning the recommended cleaning procedure for such headlamps,

(d) a warning statement that abrasive cleaning compounds, steel wool and other abrasive materials must not be used on such headlamps, and

(e) a warning statement that such headlamps are not to be wiped in the dry condition.

(34) Notwithstanding subsection (1), centre high-mounted stop lamps

(a) are not required to be fitted to any vehicle other than a passenger car;

(b) shall be fitted to all passenger cars manufactured on or after January 1, 1987;

(c) shall be designed to meet the photometric requirements of Table VIII to this section;

(d) need not meet the minimum luminous intensities at each test point specified in Table VIII to this section if

(i) the sum of the luminous intensities measured at the test points within the groups listed in Table IX to this section is not less than the minimum total intensity for those test points specified in Table IX to this section, and

(ii) the luminous intensity measured at each test point is

(A) not less than 60 per cent of the minimum design luminous intensity specified for that test point in Table VIII to this section, and

(B) not more than 120 per cent of the maximum design luminous intensity specified for that test point in Table VIII to this section;

(e) shall not exceed the luminous intensity referred to in clause (d)(ii)(B) at any point within the solid angle described in paragraph (f), except within a solid angle generated by a radius of not more than 0.25 degrees;

(f) shall be visible from any point contained within the solid angle bounded by vertical planes 45 degrees to the left and right of, and horizontal planes 10 degrees above and 5 degrees below, the H-V axis of the lamp; and

(g) need not, if mounted inside the vehicle, be designed to meet the requirements of the moisture test, dust test and corrosion test specified in SAE Standard J575e, "Tests for Motor Vehicle Lighting Devices and Components", (August 1970).

(35) For purposes of determining whether a centre high-mounted stop lamp that is mounted inside the vehicle meets the requirements of paragraphs (34)(c) to (e), the luminous intensity of the lamp shall be determined with a section of glazing material of the same optical properties as the rear window of the vehicle interposed between the lamp and the photometer sensor.

(36) A centre high-mounted stop lamp shall be designed so that the bulb or bulbs therein may be conveniently replaced without the use of any tool designed specifically for vehicles.

(37) A centre high-mounted stop lamp that is mounted inside the vehicle and that is not adhesively bonded to the rear window shall be designed so that, for the purpose of

cleaning the lens and the adjacent inside surface of the window, the lamp may be removed without the use of any tool designed specifically for vehicles.

(38) A daytime running lamp

(a) that is not optically combined with another lamp required by this section shall be designed to provide

(i) a luminous intensity of not less than 500 cd at test point H-V,

(ii) a luminous intensity of not less than 250 cd at test points H-10L and H-10R, and

(iii) a luminous intensity of not more than 1200 cd at test points 10U-20L, 10U-10L, 10U-V, 10U-10R, 10U-20R, 5U-20L, 5U-10L, 5U-V, 5U-10R, 5U-20R, H-20L, H-10L, H-V, H-10R and H-20R;

(b) that is optically combined with a front turn signal lamp or parking lamp shall be designed to provide,

(i) on a vehicle equipped with exposed headlamps, a luminous intensity of not less than 500 cd and not more than 1 200 cd at test point H-V, and

(ii) on a vehicle equipped with concealed headlamps,

(A) manufactured before December 1, 1992, a luminous intensity of not less than 300 cd and not more than 1 200 cd at test point H-V, and

(B) manufactured on or after December 1, 1992, a luminous intensity of not less than 500 cd and not more than 1 200 cd at test point H-V;

(c) that is optically combined with a headlamp shall,

(i) in the case of a lower beam of the headlamp designed to meet the photometric requirements of this section, be designed to operate at

(A) normal operating voltage, or

(B) not less than 75 per cent, and not more than 92 per cent, of the normal operating voltage or the equivalent root mean square thereof,

(ii) in the case of a lower beam of the headlamp designed to meet the photometric requirements of section 108.1, be designed to operate at

- (A) normal operating voltage, or
- (B) not less than 86 per cent, and not more than 92 per cent, of the normal operating voltage or the equivalent root mean square thereof, or
- (iii) in the case of an upper beam of the headlamp, be designed to provide a luminous intensity of not less than 2 000 cd and not more than 7 000 cd at test point H-V;
- (d) shall, if the light source is a headlamp that is activated in its concealed position, comply with the requirements of paragraph (a) or (c), as the case may be;
- (e) that is optically combined with a front fog lamp shall be designed to meet the requirements of
 - (i) paragraph (38)(a),
 - (ii) SAE Standard J583, "Front Fog Lamps" (May 1981), or
 - (iii) sections 5 to 8 of ECE Regulation No. 19, "Uniform Provisions Concerning the Approval of Motor Vehicle Fog Lights", Revision 1 (August 22, 1974);
- (f) shall not exceed, at any point within the solid angle described in paragraph (j), the maximum luminous intensity specified in paragraph (a), (b) or (c), except within a solid angle generated by a radius of not more than 0.25 degrees;
- (g) that is not optically combined with a headlamp shall comply with the requirements of SAE Standard J575e, "Tests for Motor Vehicle Lighting Devices and Components" (August 1970);
- (h) shall be designed so that the H-V axis of the lamp is horizontal and parallel to the longitudinal axis of the vehicle;
- (i) shall have a minimum unobstructed effective projected lens area of
 - (i) 40 cm^2 , projected along the H-V axis, and
 - (ii) 10 cm^2 , projected horizontally and 45 degrees outboard of the H-V axis; and
- (j) shall be visible from any point contained within the solid angle bounded by vertical planes 20 degrees to the

left and right of, and horizontal planes 10 degrees above and below, the H-V axis of the lamp.

(39) For the purposes of paragraphs (38)(a) to (f), the distance from the filament of a daytime running lamp to the photometer sensor shall be not less than

(a) 3 m, for a daytime running lamp that is optically combined with a parking lamp or a turn signal lamp or that is not optically combined with another lighting device; or

(b) 18.3 m, for a daytime running lamp that is optically combined with a headlamp or a front fog lamp.

(40) Notwithstanding subsection (1), where the distance, measured on a vertical transverse plane, from the optical axis of a front turn signal lamp to the lighted edge of a daytime running lamp that is optically combined with a headlamp is less than 100 mm,

(a) the front turn signal lamp shall be designed to meet the photometric requirements of column B of Table 1 of SAE Standard J588f, "Turn Signal Lamps" (June 1978); or

(b) the daytime running lamp shall switch off when that turn signal lamp is flashing.

(41) The inner surface of any transparent component, through which light emitted by a daytime running lamp that is designed in accordance with paragraph (38)(d) passes, shall be accessible for cleaning without the use of any tool designed specifically for vehicles.

TABLE I

EQUIPMENT

Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of 2 m (80 inches) or More Overall Width

Item	Number required on		In accordance with SAE Standard or Recommended Practice ¹
	Multipurpose Passenger Vehicles, Trucks and Buses	Trailers	
Headlamps	2 white Type 2; 2 white Type 1 and 2 white Type 2; 4 white Type 1; or 4 white Type 2		J580 August 1979, and J579c, December 1974
Daytime running lamps	2 white to yellow (2 or 4 white to yellow, if optically combined with upper beams of the headlamps)		See footnote 2
Tail lamps	2 red	2 red	J585e, September 1977
Stop lamps	2 red	2 red	J586c, August 1970
Licence plate lamp	1 white	1 white	J587d, March 1969
Reflex reflectors	4 red; 2 yellow	4 red; 2 yellow	J594e, March 1970
Side marker lamps	2 red; 2 yellow	2 red; 2 yellow	J592e, July 1972
Backup lamp	1 white		J593c, February 1968
Turn signal lamps	2 red or yellow; 2 yellow	2 red or yellow	J588e, September 1977
Turn signal operating unit	1		J589, April 1964
Turn signal flasher	1		J590b, October 1965
Vehicular hazard warning signal operating unit	1		J910, January 1966
Vehicular hazard warning signal flasher	1		J945, February 1966
Identification lamps	3 yellow; 3 red	3 red	J592e, July 1972
Clearance lamps	2 yellow; 2 red	2 yellow; 2 red	J592e, July 1972
Intermediate side marker lamps	2 yellow	2 yellow	J592e, July 1972
Intermediate side reflex reflectors	2 yellow	2 yellow	J594e, March 1970

¹ SAE Standards and Recommended Practices referred to in SAE Standards and Recommended Practices listed are those published in the 1970 edition of the SAE Handbook, except that the SAE Standard J575 referred to in J586c and J588e is J575e, August 1970, and SAE Standards and Recommended Practices referred to in J579c are those published in the 1977 edition of the SAE Handbook.

² There is no SAE Standard for this item. Specific requirements are contained in subsections (2), (7), (12), (16) to (16.4), (19) and (38) to (41).

TABLE II

LOCATION OF EQUIPMENT

Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of 2 m (80 inches) or More Overall Width

Item	Location on		Height above road surface measured from centre of item on vehicle at curb weight
	Multipurpose Passenger Vehicles, Trucks and Buses	Trailers	
Headlamps	Type 1 headlamps at the same height, 1 on each side of the vertical centreline and as far apart as practicable; Type 2 headlamps at the same height, 1 on each side of the vertical centreline and as far apart as practicable.		Not less than 610 mm (24 inches) nor more than 1 370 mm (54 inches)
Daytime running lamps	On the front: 1 (1 or 2, if optically combined with upper beams of the headlamps) on each side of the vertical centreline, at the same height and as far apart as practicable.		Not less than 300 mm (12 in.) nor more than 2 110 mm (83 in.)
Tail lamps	On the rear: 1 on each side of the vertical centreline, at the same height and as far apart as practicable.	On the rear: 1 on each side of the vertical centreline, at the same height and as far apart as practicable.	Not less than 380 mm (15 inches) nor more than 1 830 mm (72 inches)
Stop lamps	On the rear: 1 on each side of the vertical centreline, at the same height and as far apart as practicable.	On the rear: 1 on each side of the vertical centreline, at the same height and as far apart as practicable.	Not less than 380 mm (15 inches) nor more than 1 830 mm (72 inches)
Licence plate lamp	At rear licence plate, to illuminate the plate from above or from the sides.	At rear licence plate, to illuminate the plate from above or from the sides.	
Backup lamp	On the rear.		
Turn signal lamps	At or near the front: 1 yellow on each side of the vertical centreline, at the same height and as far apart as practicable. On rear: 1 red or yellow on each side of the vertical centreline, at the same height, and as far apart as practicable.	On the rear: 1 red or yellow on each side of the vertical centreline, at the same height and as far apart as practicable.	Not less than 380 mm (15 inches) nor more than 2 110 mm (83 inches)

TABLE II (Continued)

LOCATION OF EQUIPMENT

Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of 2 m (80 inches) or More Overall Width

Item	Location on		Height above road surface measured from centre of item on vehicle at curb weight
	Multipurpose Passenger Vehicles, Trucks and Buses	Trailers	
Identification lamps	On front and rear: 3 yellow on front, 3 red on rear, grouped in horizontal rows as close as practicable to the top of the vehicle, with lamp centres spaced not less than 150 mm (6 inches), or more than 300 mm (12 inches) apart, mounted as close as practicable to the vertical centreline.	On the rear: 3 red, grouped in a horizontal row as close as practicable to the top of the vehicle, with lamp centres spaced not less than 150 mm (6 inches), or more than 300 mm (12 inches) apart, mounted as close as practicable to the vertical centreline.	On front only; no part of the lamps or mountings shall extend below the top of the vehicle's windshield.
Clearance lamps	On front and rear: 2 yellow on front, 2 red on rear, to indicate the overall width of the vehicle, at the same height, one on each side of the vertical centreline and as close as practicable to the top of the vehicle.	On front and rear: 2 yellow on front, 2 red on rear, to indicate the overall width of the vehicle, at the same height, one on each side of the vertical centreline and as close as practicable to the top of the vehicle.	
Intermediate side marker lamps	On each side: 1 yellow located at or near the mid-point between the forward and rear side marker lamps.	On each side: 1 yellow located at or near the mid-point between the forward and rear side marker lamps.	Not less than 380 mm (15 inches)
Intermediate side reflex reflectors	On each side: 1 yellow located at or near the mid-point between the forward and rear side reflex reflectors.	On each side: 1 yellow located at or near the mid-point between the forward and rear side reflex reflectors.	Not less than 380 mm (15 inches) nor more than 1 530 mm (60 inches)
Reflex reflectors	On the rear: 1 red on each side of the vertical centreline, at the same height and as far apart as practicable. On each side: 1 red as far to the rear as practicable and 1 yellow as far forward as practicable.	On the rear: 1 red on each side of the vertical centreline, at the same height and as far apart as practicable. On each side: 1 red as far to the rear as practicable and 1 yellow as far forward as practicable.	Not less than 380 mm (15 inches) nor more than 1 530 mm (60 inches)

TABLE II (End)

LOCATION OF EQUIPMENT

Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of 2 m (80 inches) or More Overall Width

Item	Location on		Height above road surface measured from centre of item on vehicle at curb weight
	Multipurpose Passenger Vehicles, Trucks and Buses	Trailers	
Side marker lamps	On each side: 1 red as far to the rear as practicable, and 1 yellow as far forward as practicable.	On each side: 1 red as far to the rear as practicable, and 1 yellow as far forward as practicable.	Not less than 380 mm (15 inches), and, on the rear of trailers, not more than 1 530 mm (60 inches)

TABLE III

EQUIPMENT

Passenger Cars; Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of Less Than 2 m (80 in.) Overall Width; Motorcycles

Item	Number required on			In accordance with SAE Standard or Recommended Practice ¹
	Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses	Trailers	Motorcycles	
Headlamps	2 white Type 2; 2 white Type 1 and 2 white Type 2; 4 white Type 1; or 4 white Type 2		1 white Type 2; 2 white Type 1; 2 white Type 2; or 1 white Type 1 and 1 white Type 2	J580 August 1979 J579c, December 1974 J584, April 1964, and J566, January 1960
Daytime running lamps	2 white to yellow (2 or 4 white to yellow, if optically combined with upper beams of the headlamps)			See footnote 2
Tail lamps	2 red	2 red	1 red	J585e, September 1977
Stop lamps	2 red	2 red	1 red	J586c, August 1970

TABLE III (End)

EQUIPMENT

Passenger Cars; Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of Less Than 2 m (80 in.) Overall Width; Motorcycles

Item	Number required on			In accordance with SAE Standard or Recommended Practice ¹
	Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses	Trailers	Motorcycles	
Centre high-mounted stop lamp	1 red, on passenger cars only			J186, November 1982
Licence plate lamp	1 white	1 white	1 white	J587d, March 1969
Parking lamps	2 white or yellow			J222, December 1970
Reflex reflectors	4 red; 2 yellow	4 red; 2 yellow	3 red; 2 yellow	J594e, March 1970
Intermediate side marker lamps	2 yellow	2 yellow		J592e, July 1972
Intermediate side reflex reflectors	2 yellow	2 yellow		J594e, March 1970
Side marker lamps	2 red; 2 yellow	2 red; 2 yellow		J592e, July 1972
Backup lamp	1 white			J593c, February 1968
Turn signal lamps	2 red or yellow; 2 yellow	2 red or yellow	2 yellow; 2 red or yellow	J588e, September 1970
Turn signal operating unit	1		1	J589, April 1964
Turn signal flasher	1		1	J590b, October 1965
Vehicular hazard warning signal operating unit	1			J910, January 1966
Vehicular hazard warning signal flasher	1			J945, February 1966

¹ SAE Standards and Recommended Practices referred to in SAE Standards and Recommended Practices listed are those published in the 1970 edition of the SAE Handbook, except that the SAE Standard J575 referred to in J186 (November 1982), J585e, J586c, J588e and J588f is J575e, August 1970 and SAE Standards and Recommended Practices referred to in J579c are those published in the 1977 edition of the SAE Handbook.

² There is no SAE Standard for this item. Specific requirements are contained in subsections (2), (7), (12), (16) to (16.4), (19) and (38) to (41).

TABLE IV

LOCATION OF EQUIPMENT

Passenger Cars; Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of Less than 2 m (80 in.) Overall Width; Motorcycles

Item	Location on		Height above road surface measured from centre of item on vehicle at curb weight
	Passenger Cars, Multipurpose Passenger Vehicles, Trucks Trailers and Buses	Motorcycles	
Headlamps	Type 1 headlamps at the same height, 1 on each side of the vertical centreline and as far apart as practicable; Type 2 headlamps at the same height, 1 on each side of the vertical centreline and as far apart as practicable.	On vertical centreline except that, if two lamps are used, they shall be symmetrically disposed about the vertical centreline.	Not less than 560 mm (22 inches) nor more than 1 370 mm (54 inches)
Daytime running lamps	On the front: 1 (1 or 2, if optically combined with upper beams of the headlamps) on each side of the vertical centreline, at the same height and as far apart as practicable.		Not less than 300 mm (12 in.) nor more than 2 110 mm (83 in.)
Tail lamps	On the rear: 1 on each side of the vertical centreline, at the same height and as far apart as practicable.	On the rear: on the vertical centreline except that, if two lamps are used, they shall be symmetrically disposed about the vertical centreline.	Not less than 380 mm (15 inches) nor more than 1 830 mm (72 inches)
Stop lamps	On the rear: 1 on each side of the vertical centreline, at the same height and as far apart as practicable.	On the rear: on the vertical centreline except that, if two lamps are used, they shall be symmetrically disposed about the vertical centreline.	Not less than 380 mm (15 inches) nor more than 1 830 mm (72 inches)
Centre high-mounted stop lamp	At or near the rear, on the vertical centreline, on passenger cars only.		See paragraph (7)(g).
Licence plate lamp	At rear licence plate, to illuminate the plate from above or from the sides.	At rear licence plate.	
Parking lamps	On front: 1 on each side of the vertical centreline, at the same height and as far apart as practicable.		Not less than 380 mm (15 inches) nor more than 1 830 mm (72 inches)

TABLE IV (Continued)

LOCATION OF EQUIPMENT

Passenger Cars; Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of Less than 2 m (80 in.) Overall Width; Motorcycles

Item	Location on		Height above road surface measured from centre of item on vehicle at curb weight
	Passenger Cars, Multipurpose Passenger Vehicles, Trucks Trailers and Buses	Motorcycles	
Reflex reflectors	On the rear: 1 red on each side of the vertical centreline, at the same height and as far apart as practicable.	On the rear: 1 red on the vertical centreline except that if two reflectors are used on the rear, they shall be symmetrically disposed about the vertical centreline.	Not less than 380 mm (15 inches) nor more than 1 530 mm (60 inches)
	On each side: 1 red as far to the rear as practicable and 1 yellow as far forward as practicable.	On each side: 1 red as far to the rear as practicable and 1 yellow as far forward as practicable.	
Backup lamps	On the rear.		
Turn signal lamps	At or near the front: 1 yellow on each side of the vertical centreline, at the same height, and as far apart as practicable.	At or near the front: 1 yellow on each side of the vertical centreline, at the same height, and having a minimum horizontal separation distance (centreline to centreline of lamps) of 400 mm (16 inches). Minimum edge to edge separation distance between lamps and headlamps is 100 mm (4 inches).	Not less than 380 mm (15 inches) nor more than 2 110 mm (83 inches)
	On the rear: 1 red or yellow on each side of the vertical centreline, at the same height, and as far apart as practicable.	At or near the rear: 1 red or yellow on each side of the vertical centreline, at the same height, and having a minimum horizontal separation distance (centreline to centreline of lamps) of 230 mm (9 inches). Minimum edge to edge separation distance between lamps and tail or stop lamps is 100 mm (4 inches).	

TABLE IV (End)

LOCATION OF EQUIPMENT

Passenger Cars; Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of Less than 2 m (80 in.)
Overall Width; Motorcycles

Item	Location on		Height above road surface measured from centre of item on vehicle at curb weight
	Passenger Cars, Multipurpose Passenger Vehicles, Trucks Trailers and Buses	Motorcycles	
Side marker lamps	On each side: 1 red as far to the rear as practicable and 1 yellow as far forward as practicable.		Not less than 380 mm (15 inches)
Intermediate side marker lamps	On each side: 1 yellow located at or near the mid-point between forward and rear side marker lamps.		Not less than 380 mm (15 inches)
Intermediate side reflex reflectors	On each side: 1 yellow located at or near the mid-point between the forward and rear side reflex reflectors.		Not less than 380 mm (15 inches) nor more than 1 530 mm (60 inches)

TABLE V

LUMINOUS INTENSITY REQUIREMENTS FOR PARKING, TAIL, STOP AND TURN SIGNAL LAMPS

			Totals for Groups, Candela									
Groups	Test Points degrees	Parking lamps	Tail lamps			Red stop and turn signal lamps			Yellow turn signal lamps			
			One	Two	Three or more	One	Two	Three or more	Front		Rear	
									One	Two	One	Two
Minimum Requirements												
1	(20L-5U) (20L-H) (20L-5D) (10L-10U) (10L-10D)	2.8	1.6	2.7	3.8	55	66	80	135	165	85	110
2	(10U-V) (5U-10L) (5U-10R)	2.4	2.1	3.6	5.5	85	100	115	210	251	140	160
3	(10L-H) (5L-5U) (5L-5D)	4.2	3.4	5.3	8.0	140	167	195	350	420	225	275
4	(5U-V) (H-5L) (H-V) (H-5R) (5D-V)	16.8	9.6	16.5	24.0	380	449	520	950	1130	610	710
5	(5R-5U) (5R-5D) (10R-H)	4.2	3.4	5.3	8.0	140	167	195	350	420	225	275
6	(5D-10L) (5D-10R) (10D-V)	2.4	2.1	3.6	5.5	85	100	115	210	251	140	160
7	(10R-10U) (10R-10D) (20R-5U) (20R-H) (20R-5D)	2.8	1.6	2.7	3.8	55	66	80	135	165	85	110
Maximum rear lamps only			18	24	30	360	430	500			900	900

* Note

D means down

H means horizontal

L means left

R means right

U means up

V means vertical

TABLE VI
MINIMUM LUMINOUS INTENSITY REQUIREMENTS FOR
BACKUP LAMPS

Group	Test Point, degrees	Total for Group, Candela (See Note 1)
1	(45L-5U) (45L-H) (45L-5D)	45
2	(30L-H) (30L-5D)	50
3	(10L-10U) (10L-5U) (V-10U) (V-5U) (10R-10U) (10R-5U)	100
4	(10L-H) (10L-5D) (V-H) (V-5D) (10R-H) (10R-5D)	360
5	(30R-H) (30R-5D) (45R-5U)	50
6	(45R-H) (45R-5D)	45

- ¹ When 2 lamps of the same or symmetrically opposite design are used, the reading along the vertical axis and the averages of the readings for the same angles left and right of vertical for 1 lamp shall be used to determine compliance with the requirements. If 2 lamps of differing designs are used, they shall be tested individually and the values added to determine that the combined units meet twice the luminous intensity requirements.

When only 1 backup lamp is used on the vehicle, it shall be tested to twice the luminous intensity requirements.

TABLE VII
HEADLAMP TEST PROCEDURE APPLICATIONS

Test	Headlamp Type		Transparent Covers
	Replaceable Bulb Headlamp	Bonded Construction Sealed Beam Headlamp	
Abrasion ¹	x ²	x ²	x
Chemical resistance ¹	x	x	x
Corrosion ³	x	x	
Dust ³	x		
Humidity ⁴	x	x	
Internal heat ⁴	x	x	
Temperature cycle ¹	x	x	

Notes

¹ Headlamps with glass lenses and transparent covers made of glass are exempt.

² Headlamps used only in conjunction with transparent covers are exempt.

³ Headlamps fitted to motorcycles are exempt.

⁴ Headlamps with glass lenses, non-plastic reflectors and, if applicable, non-plastic housings are exempt.

Motor Vehicle Safety Test Methods, Section 108 "Lighting Equipment", (April 1, 1984) may be obtained by writing to the Director General, Road Safety and Motor Vehicle Regulations Directorate, Transport Canada, Ottawa, Ontario K1A 0N5

TABLE VIII

DESIGN LUMINOUS INTENSITY REQUIREMENTS FOR
CENTRE HIGH-MOUNTED STOP LAMPS

Test Points (Degrees)	Luminous Intensity (Candela)
<u>Minimum Design Requirements</u>	
(10U-10L&R)	8
(10U-V)	16
(5U&D-10L&R)	16
(5U&D-5L&R)	25
(5U&D-V)	25
(H-10L&R)	16
(H-5L&R)	25
(H-V)	25
<u>Maximum Design Requirements</u>	
All test points on passenger cars manufactured	
before September 1, 1989	160
on or after September 1, 1989	130

Note: D means down; H means horizontal; L means left;
R means right; U means up; V means vertical.

TABLE IX
LUMINOUS INTENSITY REQUIREMENTS FOR
CENTRE HIGH-MOUNTED STOP LAMPS

Groups	Test Points (Degrees)	Minimum Total Intensity of Group Test Points (Candela)
1	(5U-V) (H-5L) (H-V) (H-5R) (5D-V)	125
2	(5U-5R) (5U-10R) (H-10R) (5D-10R) (5D-5R)	98
3	(5U-5L) (5U-10L) (H-10L) (5D-10L) (5D-5L)	98
4	(10U-10L) (10U-V) (10U-10R)	32

Note: D means down; H means horizontal; L means left;
R means right; U means up; V means vertical.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-306 30 March, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective April 1, 1980

Paragraph 108(2)(f) of Schedule IV; subsection 108(2) of Schedule IV by adding paragraph (m.1); subsection 108(24) of Schedule IV; ``Motorcycles`` in the heading of Table III to section 108 of Schedule IV; and ``Motorcycles`` in the heading of Table IV to section 108 of Schedule IV.

SOR/80-636 5 August, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Revoked and replaced.

SOR/84-812 18 October, 1984 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Paragraphs 108(2)(a) and (b) of Schedule IV; paragraph 108(2)(y) of Schedule IV; subsection 108(2) of Schedule IV by adding paragraphs (cc) to (jj); section 108 of Schedule IV by adding subsections (23) to (33); and Tables I, III and VII to section 108 of Schedule IV.

SOR/86-979 11 September, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Paragraph 108(7)(a) of Schedule IV; subsection 108(7) of Schedule IV by adding paragraph (g); subsection 108(14) of Schedule IV; paragraph 108(19)(b) of Schedule IV; subsection 108(20) of Schedule IV; section 108 of Schedule IV by adding subsections 34 to 37; Table III to section 108 of Schedule IV by inserting ``Centre high-mounted stop lamp``; footnote 1 of Table III to section 108 of Schedule IV; Table IV to section 108 of Schedule IV by inserting ``Centre high-mounted stop lamp``; and section 108 of Schedule IV by adding Tables VIII and IX.

SOR/87-497 14 August, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 108(2) of Schedule IV by adding paragraphs (kk) and (ll); paragraph 108(7)(a) of Schedule IV; subsection 108(12) of Schedule IV; subsection 108(16) to (18) of Schedule IV; paragraph 108(19)(b) of Schedule IV; section 108 of Schedule IV by adding subsections 38 to 41; Table I to section 108 of Schedule IV by adding ``Daytime running lamps``, and footnote 2; Table II to section 108 of Schedule IV by adding ``Daytime running lamps``; Table III to section

108 of Schedule IV by adding ``Daytime running lamps'', and footnote 2; the item entitled ``Phares'' in the French version of Table IV to section 108 of Schedule IV under the heading ``Designation'' is substituted for ``Projecteurs''; and Table IV to section 108 of Schedule IV by adding the item ``Daytime running lamps''.

SOR/87-660 19 November, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 108(3) of Schedule IV by adding subsection (3.1).

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 108(3) of Schedule IV; effective September 1, 1988: paragraph 108(2)(y) of Schedule IV preceding subparagraph (i); subsection 108(2) of Schedule IV by adding paragraph (y.1); paragraph 108(2)(z) of Schedule IV preceding subparagraph (i); subparagraphs 108(2)(aa)(i) and (ii) of Schedule IV; paragraph 108(2)(bb) of Schedule IV is revoked; subsection 108(15) of Schedule IV preceding paragraph (a); subsection 108(18) of Schedule IV; subsection 108(29) of Schedule IV; paragraph 108(32)(c) of Schedule IV; the headings of Table III to section 108 of Schedule IV under the headings ``Equipment'' and ``Number required on''; the headings of Table IV to section 108 of Schedule IV under the headings ``Location of Equipment'' and ``Location on''; and Note 3 of Table VII to section 108 of Schedule IV. 1;TABLE VI

Headlamps

108.1 (1) As an alternative to the headlamps required by section 108 of this Schedule, passenger cars, chassis-cabs, multipurpose passenger vehicles, buses and trucks may be equipped with headlamps that

(a) comply with

(i) sections 5, 6 and 11 to 15 of ECE Regulation No. 8 "Uniform Provisions Concerning the Approval Of Motor Vehicle Headlights Emitting An Asymmetrical Passing Beam Or A Driving Beam Or Both And Equipped With Halogen Lamps, (H1, H2 or H3 Lamps) And Of the Lamps Themselves", Revision 2 (April 23, 1975),

(ii) sections 5, 6 and 11 to 15 of ECE Regulation No. 20 "Uniform Provisions Concerning The Approval Of Motor Vehicle Headlights Emitting An Asymmetrical Passing Beam Or A Driving Beam Or Both And Equipped With Halogen Lamps (H4 Lamps) And Of The Lamps Themselves", Revision 1 (September 1, 1976),

(iii) sections 6 to 8 of ECE Regulation No. 31 "Uniform Provisions For The Approval Of Halogen Sealed-Beam (H4SB) Motor Vehicle Headlights Emitting An Asymmetrical Passing Beam Or A Driving Beam Or Both", (June 2, 1975),

(iv) sections 5 and 6 of ECE Regulation No. 1 "Uniform Regulations For The Approval Of Motor Vehicle Headlights Emitting An Asymmetrical Passing Beam Or A Driving Beam Or Both", (June 8, 1965), and with sections 5 to 8 and 10 of ECE Regulation No. 2 "Uniform Regulations Concerning Approval Of Incandescent Electric Lamps For Headlights Emitting An Asymmetrical Passing Beam Or A Driving Beam Or Both", (June 8, 1965), or

(v) sections 6 to 8 of ECE Regulation NO. 5 "Uniform Provisions For The Approval Of Motor Vehicle "Sealed Beam" Headlamps (SB) Emitting A European Asymmetrical Passing Beam Or A Driving Beam Or Both", Revision 1 (March 2, 1983);

(b) emit white light as specified in SAE Standard J578c, "Color Specification for Electric Light Signalling Devices", (February 1977);

(c) provide two upper beams and two lower beams by means of

(i) two Type 2 headlamps,

(ii) two Type 1 and two Type 2 headlamps,

(iii) four Type 1 headlamps, or

(iv) four Type 2 headlamps;

(d) comply with the applicable requirements of paragraphs 108(2)(a), (b), (hh) and (jj) of this Schedule;

(e) comply with the requirements of sections 6.1, 6.4 and, if applicable, 6.3 of SAE Standard J580, "Sealed Beam Headlamp Assembly", (August 1979); and

(f) may be inspected and adjusted with respect to aim

(i) without the removal of any components, or

(ii) with the removal of not more than two components per vehicle with a screwdriver, tools supplied with the vehicle, or without tools.

(2) As an alternative to the headlamps required by section 108 of this Schedule, motorcycles, mopeds and motor driven cycles may be equipped with headlamps that

(a) provide an upper beam and a lower beam, or two upper beams and two lower beams, by means of

(i) one or two Type 2 headlamps,

(ii) two Type 1 headlamps, or

(iii) one Type 1 and one Type 2 headlamps; and

(b) comply with paragraphs (1)(a), (b), and (d) to (f).

(3) The total intensity of the upper beams of the headlamps of a vehicle equipped pursuant to subsection (1) or (2) shall not exceed 225,000 cd.

(4) Transparent covers may be fitted in front of the headlamps of a vehicle equipped pursuant to subsection (1) or (2) where the vehicle complies with paragraph 108(2)(cc) of this Schedule.

(5) For purposes of determining compliance of headlamps on a vehicle with subsections (1), (2) and (4), there shall be substituted for the expression "SAE Standard J579c (December 1974)", where it appears in section 108 of this Schedule, the applicable subparagraph of paragraph (1)(a).

(6) Vehicles fitted with headlamps pursuant to this section shall meet the requirements of subsections 108(30) to (33), if applicable, of this Schedule.

(7) Notwithstanding subsections (1) and (2), subparagraphs (1)(a)(iv) and (v) shall not apply to any vehicle manufactured on or after September 1, 1985.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-305 30 March, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 109 of Schedule IV.

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 109 of Schedule IV is renumbered section 108.1.

SOR/84-812 18 October, 1984 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 108.1 of Schedule IV.

Tire Selection and Rims

110. (1) The tires of every motor vehicle shall meet the requirements of section 1 of Schedule V to the Motor Vehicle Tire Safety Regulations.

(2) Every motor vehicle shall be equipped with rims that, pursuant to subsection 1(1) of Schedule V to the Motor Vehicle Tire Safety Regulations, are listed by the manufacturer of the tires of that motor vehicle as being rims that may be used with those tires.

(3) The maximum load for a tire of a motor vehicle shall not be greater than the maximum load rating marked on the sidewall of the tire.

(4) The normal load, as determined using the Table to this section, for a tire of a vehicle shall not be greater than the test load to which the tire is submitted when it is tested for high speed performance in accordance with section 1 of Schedule V to the Motor Vehicle Tire Safety Regulations.

(5) A placard shall be permanently affixed to the glove compartment door or to an equally accessible place in every motor vehicle and shall state

(a) the vehicle capacity mass expressed in kilograms, pounds or both;

(b) the designated seating capacity, expressed so as to show the total number of seating positions and their location in the vehicle;

(c) the cold tire inflation pressure, expressed in kilopascals or pounds per square inch, recommended by the manufacturer of the vehicle for

(i) maximum loaded vehicle mass, and

(ii) subject to subsection (6), any other vehicle load that is lower than the maximum load; and

(d) the tire size designation recommended by the manufacturer of the vehicle.

(6) No inflation pressure other than the maximum permissible inflation pressure prescribed by the tire manufacturer for the tires of the motor vehicle shall be stated on the placard referred to in subsection (5) unless

(a) the inflation pressure so stated is less than the maximum permissible inflation pressure;

(b) the vehicle load for the inflation pressure so stated is specified on the placard; and

(c) a tire load rating shown pursuant to paragraph 1(1)(a), or as listed in a publication referred to in paragraph 1(1)(b), of Schedule V to the Motor Vehicle Tire Safety Regulations for a tire of the same size designation and type as the tires of the vehicle, for the inflation pressure so stated, is greater than the vehicle load referred to in paragraph (b).

(7) Where there is a rapid loss of inflation pressure in a tire on a motor vehicle that is travelling in a straight line at a speed of 100 km/h (60 m.p.h.), the rim of the deflating tire shall retain the tire until the vehicle can be stopped with a controlled braking application.

TABLE

Occupant Distribution for Vehicle Normal Load
for Various Designated Seating Capacities

Column I	Column II	Column III
Designated Seating Capacity	Number of Occupants	Occupant Distribution
2 to 4	2	2 in front seat
5 to 10	3	2 in front seat 1 in second seat

Established by the CONSOLIDATED REGULATIONS OF CANADA 1978.

amended by

SOR/79-339 9 April, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Revoked and replaced.

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Renumbered from 111 to 110.

SOR/87-448 30 July, 1987 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Revoked and replaced.

Rearview Mirrors

111. (1) Subject to subsection (5), an inside rearview mirror shall be installed on every passenger car in such a manner as to provide the driver with a view to the rear that shall

(a) be not less than 20 degrees of angle measured horizontally rearward from the projected eyepoint, and

(b) extend to the horizon and include a point on the road surface not more than 60 m (200 ft.) directly behind the passenger car

when the passenger car is on a level road surface and is loaded with

(c) a driver and four occupants, or

(d) an occupant in each designated seating position,

whichever is the lighter load, calculated on the basis of the driver and each occupant weighing 68 kg (150 lb.).

(2) Notwithstanding subsection (1), the view to the rear described in that subsection may be partially obscured by seated occupants or head restraints.

(3) An inside rearview mirror referred to in subsection (1), if situated in the head impact area, shall, when the reflective surface of the mirror is subjected to a force of 400 N (90 lb.) in any direction that is not more than 45 degrees from the forward longitudinal direction, deflect, collapse or break away without leaving sharp edges.

(4) An outside rearview mirror shall be installed on the driver's side of every passenger car in such a manner as to provide the driver with a view to the rear on a level road surface that

(a) may be partially obscured by the rear body and fender contours;

(b) extends to the horizon; and

(c) includes a line measuring 2.5 m (8 ft.) perpendicular to and outboard from the vertical longitudinal plane tangent to the driver's side of the passenger car at the widest part thereof at a point 10.6 m (35 ft.) behind the eyes of the driver seated with the seat of the driver in the rearmost position.

(5) Where an inside rearview mirror referred to in subsection (1) does not provide the view to the rear required by that subsection, an outside rearview mirror having not less than 90 per cent of the reflective surface area of the outside rearview mirror installed pursuant to subsection (4) shall be installed on the side of the passenger car opposite the driver's side.

(6) A rearview mirror referred to in subsection (1), (4) or (5) or in subparagraph (7)(a)(i), (ii) or (iii) shall be capable of adjustment from within the passenger compartment of the passenger car.

(7) Every multipurpose passenger vehicle, truck or bus, with a GVWR of 4 536 kg (10,000 lb.) or less, except a school bus, shall have

(a) the following rearview mirrors:

(i) an inside rearview mirror that meets the requirements of subsections (1) to (3),

(ii) on the driver's side, an outside rearview mirror that meets the requirements of subsection (4), and

(iii) after September 1, 1988, on the side opposite the driver's side, an outside rearview mirror that has not less than 90 per cent of the reflective surface area of the outside rearview mirror installed pursuant to subparagraph (ii); or

(b) on each side of the multipurpose passenger vehicle, truck or bus, an outside rearview mirror with not less than 125 cm² (19.5 sq. in.) of reflective surface area located so as to provide the driver with a view to the rear along both sides of the vehicle.

(8) Every multipurpose passenger vehicle, truck or bus with a GVWR of more than 4 536 kg (10,000 lb.) and every school bus shall have on each side of the vehicle an outside rearview mirror with not less than 325 cm² (50 sq. in.) of reflective surface located so as to provide the driver with a view to the rear along both sides of the vehicle.

(9) Except for a school bus that is a forward control vehicle, every school bus shall have an outside convex mirror that meets the requirements of paragraph (13)(b), with not less than 260 cm² (40 sq. in.) of reflective surface visible to the seated driver located on the front of the vehicle in such a manner that the seated driver can observe a reflection of the road from the front bumper forward to a point where direct observation is possible.

(10) Every motorcycle shall have, mounted on each side so that the horizontal centre of each reflective surface of the mirror is at least 280 mm (11 in.) outward from the longitudinal centre line of the motorcycle,

(a) a mirror of unit magnification with not less than 80 cm² (12.5 sq. in.) of reflective surface; or

(b) a convex mirror with not less than 64.5 cm² (10 sq. in.) of reflective surface and an average radius of curvature that is not less than 510 mm (20 in.) and not more than 1,800 mm (71.5 in.).

(11) For the purposes of subsections (1), (2) and (4), the view to the rear of the driver shall be evaluated by using

(a) the location of the driver's eye reference points for the 95th percentile tangential cut-off specified in SAE Recommended Practice J941a, "Passenger Car Driver's Eye Range" (August 1967); or

(b) the driver's eye reference points at a nominal location appropriate for any 95th percentile adult male driver.

(12) A mirror referred to in this section, when installed on a vehicle, shall

(a) have a stable support;

(b) be adjustable in the horizontal and vertical directions;

(c) subject to subsections (9), (10) and (13), be of unit magnification;

(d) when tested in accordance with SAE Recommended Practice J964a, "Test Procedure for Determining Reflectivity of Rearview Mirrors" (August 1974), have an average reflective value of not less than 35 per cent and, in the case of a mirror of the selective position prismatic type, of not less than 4 per cent in the night driving position;

(e) be free of sharp points or edges that could contribute to the injury of any occupant of the vehicle or of any pedestrian;

(f) subject to subsections (2) and (4), not have its view obscured by the portion of the windshield that is not wiped nor by any opaque portion of the vehicle structure; and

(g) in the case of outside rearview mirrors, have no greater protrusion beyond the perimeter of the vehicle than is necessary to meet or exceed the field of view requirements for the mirror set out in this section.

(13) An outside rearview mirror installed on the side of a vehicle opposite the driver's side, referred to in subsections (5), (7) or (8) may be convex if

(a) the reflective surface area is equal to or greater than that of a mirror of unit magnification that would meet the requirements in respect of that mirror set out in that subsection;

(b) the radius of curvature at any point does not deviate by more than 12.5 per cent from the average of any five radius of curvature measurements made on the reflective surface at least 6 mm (0.25 in.) from the edge of the image display; and

(c) the average radius of curvature is not less than 890 mm (35 in.) and not greater than 1 800 mm (71.5 in.).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.
amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Renumbered from sections 112 and 113 to sections 111 and
111.1.

SOR/80-439 12 June, 1980 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1980

Section 111 of Schedule IV; and subsection 111.1(4) of
Schedule IV is revoked.

SOR/82-918 8 October, 1982 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Paragraph 111(9)(b) of Schedule IV.

SOR/87-658 19 November, 1987 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Section 111 of Schedule IV; and section 111.1 of Schedule IV
is revoked.

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act, effective September 1, 1988

Subsection 111(10) of Schedule IV.

Headlamp Concealment Devices

112. (1) In this section,

“fully opened” means the position of the headlamp concealment device in which the headlamp is in the design open operating position;

“headlamp concealment device” means a device, including the operating system and components thereof, that provides concealment of one or more headlamps when it is not in use and includes a movable headlamp cover and a headlamp that is displaced for concealment purposes;

“power” means any form of energy that operates the headlamp concealment device.

(2) In the case of a vehicle equipped with a headlamp concealment device, that device shall open to its fully opened position when the headlamp is illuminated and shall remain fully opened during

(a) any loss of power to or within the headlamp concealment device; and

(b) any disconnection, restriction, short-circuit, circuit time delay, or other similar malfunction in any wiring, tubing, hose, solenoid or other component that controls or conducts power for operating the concealment device.

(3) Whenever any malfunction occurs in a component that controls or conducts power for the actuation of the headlamp concealment device, each closed headlamp concealment device shall be capable of being fully opened

(a) by automatic means,

(b) by actuation of a switch, lever or other similar mechanism, or

(c) by other means not requiring the use of any tools,

and thereafter shall remain fully opened until intentionally closed.

(4) During normal functioning of a headlamp concealment device, it shall be capable of being fully opened and the headlamps illuminated by actuation of a single switch, lever, or similar mechanism including a mechanism that is automatically actuated by a change in ambient light conditions.

(5) Each headlamp concealment device shall be installed on the vehicle in such a manner that the headlamp may be mounted, aimed, and adjusted without removing any component of the device other than components of the headlamp assembly.

(6) During the opening or closing of any headlamp concealment device, the beam of the headlamps shall not project to the left of or above the position of the beam when the device is fully opened.

(7) During normal functioning each headlamp concealment device shall be capable of being fully opened in not more than 3 seconds after actuation of the control within an ambient temperature range of -20°F to 120°F .

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 114 of Schedule IV is renumbered as section 112.

Hood Latch System

113. (1) In this section, "hood" means any exterior movable body panel forward of the windshield that is used to cover an engine, luggage, storage or battery compartment.

(2) Each hood with which a vehicle is equipped shall be provided with a hood latch system.

(3) A front opening hood that in any open position partially or completely obstructs a driver's forward view through the windshield of the vehicle shall be provided with a second latching position on the hood latch system or with a second hood latch system.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.
amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 115 of Schedule IV is renumbered as section 113.

Locking System

114. (1) In this section, "self-mobility" means movement of the vehicle by means of a rolling motion of all the weight-bearing wheels.

(2) Every vehicle shall have a locking system operated by a key that prevents

(a) normal activation of the vehicle engine or other main source of motive power, and

(b) either steering or forward self-mobility or both, when the key is removed.

(3) The prime means for de-activating the vehicle engine or other main source of motive power shall not simultaneously activate either the prevention of steering or the prevention of forward self-mobility of the vehicle or both.

(4) The number of different variations of the locking systems referred to in subsection (2) used by each manufacturer shall be at least 1,000 or a number equal to the number of vehicles manufactured by such manufacturer, whichever is the lesser, taken separately for each prescribed class of vehicle to which this section is applicable.

(5) A warning to the driver of the vehicle shall be activated whenever the key referred to in subsection (2) has been left in the locking system and the driver's door is opened but the warning need not be activated

(a) after the key has been manually withdrawn to a position from which it may not be turned;

(b) when the locking system is in the ON or START position; or

(c) after the key has been inserted in the locking system and before it has been turned.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 116 of Schedule IV is renumbered as section 114.

Vehicle Identification Number

115.(1) Every vehicle shall have a vehicle identification number and the identification numbers of any two vehicles manufactured by a manufacturer within a thirty year period shall not be identical.

(1.1) A vehicle that is manufactured from a chassis-cab shall bear the vehicle identification number assigned by the manufacturer of the chassis-cab.

(1.2) Where a vehicle identification number is stated on a label bearing a statement of compliance affixed to a vehicle and the vehicle is altered, the vehicle identification number shall apply to the altered vehicle.

(2) Subject to subsection (2.1), the vehicle identification number of each vehicle shall

(a) be composed of capital, sanserif characters;

(b) be sunk into, embossed on or imprinted, clearly and indelibly, on

(i) any part of the vehicle that is not designed to be removed except for repair, other than glazing, or

(ii) a separate plate that is permanently affixed to a part referred to in subparagraph (i); and

(c) in the case of a passenger car, multipurpose passenger vehicle or truck, the gross vehicle weight rating of which is not in excess of 4 536 kg, be

(i) composed of characters having a minimum height of 4 mm,

(ii) located inside the passenger compartment, and

(iii) without any part of such vehicle being removed, readable through the vehicle glazing under daylight conditions by an observer having 20/20 vision Snellen whose eyepoint is located outside the vehicle adjacent to the left windshield pillar.

(2.1) The vehicle identification number of each vehicle that is a snowmobile shall

- (a) be composed of capital, sanserif characters;
- (b) be stamped in relief or in intaglio or affixed on the right exterior vertical surface of the track tunnel;
- (c) be difficult to remove, replace or alter without detection;
- (d) be composed of characters having a minimum height of 6 mm;
- (e) where stamped in intaglio, have a depth of impression of not less than 0.25 mm;
- (f) be legible without moving any part of the vehicle; and
- (g) be protected to avoid corrosion, when the vehicle identification number is made of a material that is subject to corrosion.

(3) Subject to subsection (4), the vehicle identification number of any vehicle shall be alphanumeric and shall contain seventeen characters as follows:

(a) the first three characters shall uniquely identify the manufacturer, make and class of vehicle

(i) where the manufacturer manufactures five hundred or more vehicles of a prescribed class annually, and

(ii) in conjunction with the twelfth to fourteenth characters, inclusive, where the manufacturer manufactures less than five hundred vehicles of a prescribed class annually;

(b) the fourth to eighth characters, inclusive, shall uniquely identify the decipherable information for the vehicle as set out in column II of Table I, except that

(i) the fourth and fifth characters shall be alphabetic and the sixth and seventh characters shall be numeric for a passenger car, multipurpose passenger vehicle or truck having a gross vehicle weight rating of 4 536 kg or less, and

(ii) subject to subparagraph (i), the characters and their positioning may be determined by the manufacturer;

(c) the ninth character shall be the check digit determined in accordance with subsections (7) and (8) after all other characters have been determined by the manufacturer;

(d) the tenth character shall be the appropriate vehicle model year code set out opposite the vehicle year in Table II;

(e) the eleventh character shall identify the plant of manufacture of the vehicle;

(f) subject to paragraph (h), the twelfth to seventeenth characters, inclusive, shall be sequentially assigned by the manufacturer during the manufacturing process, where the manufacturer manufactures five hundred or more vehicles of a prescribed class annually;

(g) subject to paragraph (h), the twelfth to fourteenth characters in conjunction with the first to third characters, inclusive, shall uniquely identify the manufacturer, make and class of vehicle and the fifteenth to seventeenth characters, inclusive, shall be sequentially assigned by the manufacturer during the manufacturing process, where the manufacturer manufactures less than five hundred vehicles of a prescribed class annually; and

(h) the fourteenth to seventeenth characters, inclusive, shall be numeric for all vehicles and the thirteenth character shall be numeric if the vehicle is a passenger car, multipurpose passenger vehicle or truck having a gross vehicle weight rating of 4 536 kg or less.

(4) The vehicle identification number of any restricted-use motorcycle or any snowmobile may be composed of fewer than 17 alphanumeric characters.

(5) Each character used in a vehicle identification number shall be one of the Arabic numerals or Roman letters specified in Table III.

(7) The check digit referred to in paragraph (3)(c) shall be determined by

(a) assigning to each numeral of the vehicle identification number the actual mathematical value of that numeral;

(b) assigning to each letter the mathematical value for that letter specified in Table IV;

(c) multiplying the assigned value for each character of the vehicle identification number by the weight factor set out opposite that character in Table V; and

(d) adding together the numbers obtained under paragraph (c) and dividing the total by 11.

(8) The fractional portion of the quotient obtained by paragraph (7)(d), multiplied by eleven, shall be the check digit, except that if that product is 10, the check digit shall be X.

(9) The Minister may require manufacturers of vehicles in respect of which this section applies to submit to the Minister those characters that uniquely identify a vehicle including, where applicable, the twelfth to fourteenth characters, inclusive, that constitute part of the identifier, for each make and class of vehicle manufactured and, in all cases, the information necessary to decipher the characters in vehicle identification numbers.

(10) Where a character in a vehicle identification number identifies engine net power, the engine net power represented by that character shall not differ by more than ten per cent from the actual engine net power.

(11) Manufacturers of vehicles in respect of which this section applies shall apply to the Motor Vehicle Manufacturers Association for the characters referred to in paragraphs 3(a) and (g) that uniquely identify the manufacturer, make and class of vehicle.

TABLE I

Item	Column I Class of Vehicle	Column II Decipherable Information
1.	Passenger car	Line, series, body type, engine type and restraint system type
2.	Multipurpose passenger vehicle	Line, series, body type, engine type and gross vehicle weight rating
3.	Truck	Model or line, series, chassis, cab type, engine type, brake system and gross vehicle weight rating
4.	Bus	Model or line, series, body type, engine type, and brake system
5.	Trailer	Type of trailer, body type, length and axle configuration
6.	Motorcycle or restricted-use motorcycle	Type of cycle, line, engine type, and net brake horsepower
7.	Chassis-cab	Model or line, series, cab type, engine type, and brake system
8.	Trailer converter dolly	Series and axle configuration
9.	Snowmobile	Type, line, engine type and net brake horsepower

TABLE II
MODEL YEAR CODES

Year	Code
1980	A
1981	B
1982	C
1983	D
1984	E
1985	F
1986	G
1987	H
1988	J
1989	K
1990	L
1991	M
1992	N
1993	P
1994	R
1995	S
1996	T
1997	V
1998	W
1999	X
2000	Y
2001	1
2002	2
2003	3
2004	4
2005	5
2006	6
2007	7
2008	8
2009	9
2010	A
2011	B
2012	C

TABLE III

AUTHORIZED CHARACTERS

Numbers: 1234567890

Letters: ABCDEFGHJKLMNPRSTUVWXYZ

All spaces provided for in the vehicle identification number must be occupied by a character specified in this Table.

TABLE IV

LETTER VALUES

A = 1	J = 1	T = 3
B = 2	K = 2	U = 4
C = 3	L = 3	V = 5
D = 4	M = 4	W = 6
E = 5	N = 5	X = 7
F = 6	P = 7	Y = 8
G = 7	R = 9	Z = 9
H = 8	S = 2	

TABLE V

CHARACTER AND WEIGHT FACTOR

1st	8
2nd	7
3rd	6
4th	5
5th	4
6th	3
7th	2
8th	10
Check Digit	0
9th	9
10th	8
11th	7
12th	6
13th	5
14th	4
15th	3
16th	2

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-306 30 March, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective 1 April, 1980

Subsection 115 (3).

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Renumbered from 117 to 115.

SOR/82-753 29 July, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective 1 January, 1983

Revoked and replaced.

SOR/87-660 19 November, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 115(2) of Schedule IV preceding paragraph (a); section 115 of Schedule IV by adding subsection (2.1); subsection 115(4) of Schedule IV; and Table I to section 115 of Schedule IV by adding 'Snowmobile: Type, line, engine type and net brake power'.

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 115(4) of Schedule IV; and Table I to section 115 of Schedule IV by changing 'Motorcycle, moped, motor-driven cycle' to 'Motorcycle or restricted-use motorcycle'.

SOR/88-535 18 October, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Section 115 of Schedule IV by adding subsections 115(1.1) and 115(1.2); paragraph 115(2)(c) of Schedule IV preceding subparagraph (i); subsection 115(3) of Schedule IV; subsection 115(6) of Schedule IV is revoked; subsection 115(7) of Schedule IV preceding paragraph (a); subsections 115(9) and (10) of Schedule IV; and Table I to section 115 of Schedule IV.

Hydraulic Brake Fluid

116. (1) Every hydraulic brake system of a vehicle shall contain

(a) grade DOT 3, grade DOT 4 or grade DOT 5 brake fluid;
or

(b) hydraulic system mineral oil.

(2) Grade DOT 3 brake fluid is a brake fluid that complies with the specifications set out in subsection (5) and, when subjected to Motor Vehicle Safety Test Methods, Section 116, "Hydraulic Brake Fluid", approved March 18, 1975, shall have

(a) an ERBP of not less than 205°C (401°F);

(b) a wet ERBP of not less than 140°C (284°F); and

(c) a kinematic viscosity when measured in mm²/s

(i) at -40°C (-40°F), of not more than a maximum value of 1 500 mm²/s, and

(ii) at 100°C (212°F), of not less than a minimum value of 1.5 mm²/s.

(3) Grade DOT 4 brake fluid is a brake fluid that complies with the specifications set out in subsection (5) and, when subjected to Motor Vehicle Safety Test Methods, Section 116, "Hydraulic Brake Fluid", approved March 18, 1975, shall have

(a) an ERBP of not less than 230°C (446°F);

(b) a wet ERBP of not less than 155°C (311°F); and

(c) a kinematic viscosity when measured in mm²/s

(i) at -40°C (-40°F), of not more than a maximum value of 1 800 mm²/s, and

(ii) at 100°C (212°F), of not less than a minimum value of 1.5 mm²/s.

(4) Grade DOT 5 brake fluid is a brake fluid that complies with the specifications set out in subsection (6) and, when subjected to Motor Vehicle Safety Test Methods, Section 116, "Hydraulic Brake Fluid", approved March 18, 1975, shall have

- (a) an ERBP of not less than 260°C (500°F);
- (b) a wet ERBP of not less than 180°C (356°F); and
- (c) a kinematic viscosity when measured in mm²/s
 - (i) at -40°C (-40°F) of not more than a maximum value of 900 mm²/s, and
 - (ii) at 100°C (212°F) of not less than a minimum value of 1.5 mm²/s.

(5) Grade DOT 3 brake fluid and grade DOT 4 brake fluid, when subjected to Motor Vehicle Safety Test Methods, Section 116, "Hydraulic Brake Fluid", approved March 18, 1975, shall

(a) have a pH value of not less than 7 and not more than 11.5;

(b) have high temperature stability such that the ERBP does not change by more than 3°C (5.4°F) plus 0.05°C (0.09°F) for each degree that the ERBP of the fluid exceeds 225°C (437°F);

(c) have chemical stability such that the ERBP does not change by more than 3°C (5.4°F) plus 0.05°C (0.09°F) for each degree that the ERBP of the fluid exceeds 225°C (437°F);

(d) with respect to corrosion, not exhibit at the end of the test

(i) in the case of the various metal test strips,

(A) weight changes more than those set out in Table I to this section,

(B) pitting or etching to an extent discernible without magnification, excluding the area of contact 13 ± 1 mm ($1/2 \pm 1/32$ inch) measured from the bolt hole end of the metal test strip, and

(C) a crystalline deposit forming on or adhering to either the surface of the metal test strip or the wall of the glass jar,

(ii) in the case of the water-wet brake fluid,

(A) gelling at 23 ± 5 °C (73.4 ± 9 °F),

(B) more than 0.10 per cent sedimentation by volume, and

(C) a pH value of not less than 7 and not more than 11.5, and

(iii) in the case of the rubber cups,

(A) disintegration as evidenced by blisters or sloughing,

(B) more than 15 IRHD decrease in hardness, and

(C) more than 1.4 mm (0.055 inch) increase in base diameter;

(e) with respect to fluidity and appearance at the storage temperature and for the storage times set out in Table II to this section,

(i) show no stratification, sedimentation, sludging or crystallization,

(ii) upon inversion of the sample bottle, allow the air bubble to travel to the top of the fluid in not more than the maximum bubble flow times set out in Table II to this section, and

(iii) on warming to room temperature the fluid shall resume the appearance and fluidity that it had before chilling;

(f) with respect to evaporation,

(i) not experience a weight loss in excess of 80 per cent,

(ii) not contain precipitate brake fluid residue after evaporation that remains gritty or abrasive when rubbed with the fingertips, and

(iii) have a residue pour point below -5°C ($+23^{\circ}\text{F}$);

(g) with respect to water tolerance,

(i) at -40°C (-40°F)

(A) show no stratification, sedimentation, sludging or crystallization,

(B) upon inversion of the centrifuge tube, allow the air bubble to travel to the top of the fluid in not more than 10 seconds, and

(C) if cloudiness has developed, the wet fluid shall regain its original clarity and fluidity when warmed to room temperature, and

(ii) at 60°C (140°F), show

(A) no stratification, and

(B) not more than 0.15 per cent sedimentation by volume after centrifuging;

(h) with respect to compatibility,

(i) at -40°C (-40°F) show no stratification, sedimentation, sludging or crystallization, and

(ii) at 60°C (140°F), show

(A) no stratification, and

(B) not more than 0.05 per cent sedimentation by volume after centrifuging;

(i) with respect to resistance to oxidation,

(i) show no pitting or etching of the metal test strips outside the areas in contact with the tinfoil to an extent discernible without magnification,

(ii) deposit no more than a trace of gum on the test strips outside the areas in contact with the tinfoil,

(iii) not change the weight of the aluminum strips by more than 0.5 g/m², and

(iv) not change the weight of the cast iron strips by more than 3.0 g/m²;

(j) with respect to the effect on rubber brake cups subjected to brake fluid,

(i) increase the diameter of the base of the cups not more than 1.40 mm (0.055 inch) and not less than 0.15 mm (0.006 inch),

(ii) decrease the hardness of the cups not more than 10 IRHD at 70°C (158°F) and not more than 15 IRHD at 120°C (248°F),

- (iii) not increase the hardness of the cups, and
 - (iv) cause no disintegration of the cups that is evidenced by stickiness, blisters or sloughing; and
- (k) with respect to stroking properties,
- (i) cause no pitting or etching of metal parts of the test system that is discernible without magnification,
 - (ii) not change the diameter of any cylinder or piston by more than 0.13 mm (0.005 inch),
 - (iii) not cause more than 15 IRHD average decrease in hardness in 9 of 10 rubber brake cups tested (8 wheel cylinder and one master cylinder primary), nor more than 17 IRHD decrease in hardness in more than 1 of the 9 cups,
 - (iv) not cause an unsatisfactory operating condition as evidenced by stickiness, scuffing, blisters, cracking, chipping or other abnormal change in shape from original appearance in any of the 10 rubber brake cups tested,
 - (v) not cause more than 0.9 mm (0.035 inch) increase in base diameter in any of the 10 rubber cups,
 - (vi) not cause the average lip diameter of the 10 rubber brake cups tested to be deformed by more than 65 per cent,
 - (vii) not cause more than 36 ml by volume loss of fluid during any period of 24,000 strokes,
 - (viii) not cause the cylinder pistons to freeze or function improperly during the test,
 - (ix) not cause more than 36 ml total loss of fluid during the 100 strokes at the end of the test,
 - (x) show no formation of gels at the end of the test,
 - (xi) not contain more than 1.5 per cent by volume of sediment at the end of the test, and
 - (xii) not cause in brake cylinders deposits that are abrasive or that cannot be removed when rubbed moderately with a non-abrasive cloth wetted with ethanol.

(6) Grade DOT 5 brake fluid, when subjected to Motor Vehicle Safety Test Methods, Section 116, "Hydraulic Brake

Fluid'', approved 18 March, 1975 shall meet the requirements set out in subsection (5), but omitting,

(a) the requirements of paragraphs (5)(a) and (c), clause (5)(d)(ii)(C), clause (5)(h)(ii)(A), and

(b) the no stratification requirements of subparagraph (5)(h)(i).

TABLE I

Test Strip Material	Max. permissible weight change, g/m ² of surface
Steel, tinned iron, cast iron	2
Aluminum	1
Brass, copper	4

TABLE II

Fluidity and Appearance at Low Temperatures

Storage Temperature	Storage time (hours)	Max. bubble flow time (seconds)
Minus 40 \pm 2°C (Minus 40 \pm 3.6°F)	144 \pm 4.0	10
Minus 50 \pm 2°C (Minus 58 \pm 3.6°F)	6 \pm 0.2	35

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 118 of Schedule IV is renumbered as section 116.

Power-Operated Window Systems

118. A power-operated window or partition with which a passenger car, multipurpose passenger vehicle or truck with a GVWR of not more than 4,536 kg (10,000 lb.) is equipped shall only be capable of being moved

(a) if the key that controls the activation of the engine is in the ON, START or ACCESSORY position;

(b) by muscular force unassisted by a power source within the vehicle;

(c) by activation of a key-locking system on the exterior of the vehicle; or

(d) by a power source within the vehicle after the key that controls the activation of the engine of the vehicle is turned to the OFF position and before a front door of the vehicle is opened far enough to allow any person to exit the vehicle.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 119 of Schedule IV is renumbered section 118.

SOR/86-682 19 June, 1986 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Revoked and replaced.

Tire Selection and Rims for Vehicles Other Than Passenger Cars

120. (1) Subject to subsection (5), the tires of every bus, chassis-cab, motorcycle, motor driven cycle, moped, multipurpose passenger vehicle, trailer, trailer converter dolly and truck shall meet the requirements of the Motor Vehicle Tire Safety Regulations.

(2) Every motor vehicle described in subsection (1) shall be equipped with rims that are listed by the manufacturer of the tires as being suitable for use with the tires of the motor vehicle in accordance with subsection 1(1) or 2(1) of Schedule V to the Motor Vehicle Tire Safety Regulations.

(3) The sum of the maximum load ratings of the tires fitted to an axle shall

(a) be not less than the gross axle weight rating (GAWR) of the axle system as specified in the vehicle's statement of compliance label as required by section 6 of the Regulations;

(b) where the statement of compliance label shows more than one GAWR for the axle system, be not less than the GAWR corresponding to the size designation of the tires fitted to the axle; and

(c) where the size designation of the tires fitted to the axle does not appear on the statement of compliance label, be not less than the lowest GAWR appearing on the label.

(4) For the purpose of determining the sum referred to in subsection (3), where a bus, chassis-cab, multipurpose passenger vehicle, trailer, trailer converter dolly or truck is equipped with a passenger car tire, the maximum load rating of that tire shall be divided by a factor of 1.10.

(5) A bus, chassis-cab, trailer, trailer converter dolly or truck may, at the request of the purchaser, be equipped at the place of manufacture of the vehicle with retreaded or used tires if those tires

(a) are owned or leased by the purchaser;

(b) have a total maximum load rating that meets the requirements of subsection (3);

(c) have not been the subject of a notice of defect;

(d) have a tread depth greater than 1.5 mm (1/16 inch); and

(e) were originally manufactured to comply with

(i) in the case of used tires, the requirements of the Motor Vehicle Tire Safety Regulations, and

(ii) in the case of retreaded tires, Canada Motor Vehicle Tire Safety Standard 119, United States Federal Motor Vehicle Safety Standard 119 or Japanese Industrial Standard JIS D4230.

'6) Each rim fitted to a vehicle described in subsection (1) shall be marked with

(a) a letter indicating the source of the rim's published nominal dimensions, which letter shall be

(i) "T" if the nominal dimensions are published by the Tire and Rim Association, Inc.,

(ii) "E" if the nominal dimensions are published by the European Tire and Rim Technical Organization,

(iii) "J" if the nominal dimensions are published by the Japan Automobile Tire Manufacturers' Association, Inc.,

(iv) "D" if the nominal dimensions are published by the Deutsches Institut für Normung,

(v) "M" if the nominal dimensions are published by the Society of Motor Manufacturers and Traders Limited,

(vi) "B" if the nominal dimensions are published by the British Standards Institution,

(vii) "S" if the nominal dimensions are published by the Scandinavian Tire and Rim Organization, or

(viii) "N" if the nominal dimensions are contained in a list that is required to be furnished pursuant to paragraph 1(1)(a) or 2(1)(a) of Schedule V to the Motor Vehicle Tire Safety Regulations;

(b) the rim size designation;

(c) in the case of a multipiece rim, the rim type designation;

(d) a designation that identifies the manufacturer of the rim by

(i) name,

(ii) trademark, or

(iii) symbol; and

(e) the date of manufacture of the rim, expressed in numerals showing

(i) the month, day and year, or

(ii) the month and year.

(7) The markings referred to in subsection (6) shall

(a) be in lettering not less than 3 mm (1/8 inch) high; and

(b) be impressed to a depth or embossed to a height of not less than 0.13 mm (.005 inch) as measured from the surrounding surface.

(8) The markings referred to in paragraphs (6)(a) to (c) shall appear on the weather side of the rim.

(9) The markings referred to in paragraphs (6)(d) and (e) may appear on any part of the rim.

(10) In the case of wheels of single piece construction, the markings referred to in subsection (6) may appear on the wheel disc.

(11) In the case of rims of multipiece construction,

(a) the markings referred to in subsection (6) shall appear on the rim base; and

(b) the markings referred to in paragraphs (6)(b) to (d) shall appear on each other part of the rim in addition to the rim base.

(12) Subject to subsection (14), the statement of compliance label required by section 6 of the Regulations shall contain, after each GAWR,

(a) the size designation of tires appropriate for that GAWR;

(b) the size designation and, if applicable, the type designation of rims appropriate for the tires specified pursuant to paragraph (a); and

(c) the cold inflation pressure, in kilopascals or pounds per square inch, for the tires specified pursuant to paragraph (a).

(13) The tires specified pursuant to paragraph (12)(a) and the rims specified pursuant to paragraph (12)(b) need not be the tires and rims with which the vehicle is equipped.

(14) At the option of the manufacturer, the information required by subsection (12) may be listed on a separate tire information label affixed to the vehicle in the manner, location and form described in section 6 of the Regulations.

Established by

SOR/79-340 9 April, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act.

amended by

SOR/79-696 28 September, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsections 120(6) to (11) of Schedule IV are revoked, effective September 27, 1979; and section 120 of Schedule IV by adding subsections (6) to (11), effective September 1, 1980.

SOR/87-451 30 July, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 120(1) of Schedule IV; subsection 120(3) of Schedule IV preceding paragraph (a); subsection 120(5) of Schedule IV; and subsection 120(6) of Schedule IV preceding paragraph (b).

Air Brake Systems

121. (1) This section does not apply to any vehicle that

(a) has an overall width of more than 2.6 m (102 inches) when any extendable equipment is in a fully retracted position;

(b) has an axle that has a GAWR of 13 154 kg (29,000 pounds) or more;

(c) is a truck or bus that has a speed attainable in 3.2 km (2 miles) of not more than 53.1 km/h (33 mph);

(d) is a truck that has

(i) a speed attainable in 3.2 km (2 miles) of not more than 72.2 km/h (45 mph),

(ii) an unloaded vehicle weight that is not less than 95 per cent of the GVWR, and

(iii) no capacity to carry passengers other than the operating crew;

(e) is a trailer that has an unloaded vehicle weight that is not less than 95 per cent of its GVWR;

(f) is a trailer that has a GVWR of more than 54 431 kg (120,000 pounds) the body of which conforms to that described in the definition "heavy hauler trailer" in section 2 of these Regulations; or

(g) is a load divider dolly.

(2) This section does not apply to trailers or trailer converter dollies manufactured before April 1, 1976.

(3) Every truck, bus and chassis-cab equipped with an air brake system shall have

(a) an air compressor capable of increasing the air pressure in the supply and service reservoirs from 586 to 689.5 kPa (85 to 100 p.s.i.) when the engine is operating at the maximum revolutions per minute recommended by the vehicle manufacturer, within a time, expressed in seconds, determined by the quotient

$$\frac{\text{actual reservoir capacity} \times 25}{\text{required reservoir capacity;}}$$

(b) subject to subsection (4), one or more service reservoirs from which air is delivered to the brake chambers that have

(i) an automatic condensate drain valve for each service reservoir, or

(ii) a supply reservoir between each service reservoir and source of air pressure;

(c) pressure gauges accurate to within 7 per cent of the compressor cut-out pressure, readily visible to a person seated in the normal driving position, that

(i) in the case of on-highway vehicles, indicate the air pressure in each service brake reservoir system, or

(ii) in the case of on-off-highway vehicles, at the manufacturer's option,

(A) indicate the air pressure in each service brake reservoir system, or

(B) indicate the air pressure that is being applied to the brakes when the brake pedal is operated and that indicate the air pressure in the air supply system;

(d) a signal other than the pressure gauge, that gives a continuous warning to the driver, when the ignition switch is in the "on" or "run" position and the air pressure in the service reservoir system is below 413.68 kPa (60 p.s.i.) and that is

(i) visible within the driver's forward field of view, or

(ii) both audible and visible to a person in the normal driving position;

(e) a system that lights the stop lamps when the service brake control is statically depressed to a point that produces a pressure of 41.36 kPa (6 p.s.i.) or less in the service brake chambers;

(f) if the vehicle is equipped with an anti-lock system, a signal that gives a continuous warning to a person seated in the normal driving position in the event of a total electrical failure in the anti-lock system when the ignition switch is in the "on" or "run" position and that

(i) operates each time the ignition switch is returned to the "on," or "run," position from any other position, and

(ii) is

(A) visible within the driver's forward field of view, or

(B) audible for at least 10 seconds and continuously visible; and

(g) a system to protect the air pressure in the brake system of the towing vehicle from the effects of a loss of air pressure in the towed vehicle, if the vehicle is intended to tow another vehicle equipped with air brakes.

(4) All reservoirs referred to in paragraph (3)(b) shall

(a) have a combined volume of at least twelve times the combined volume of all service brake chambers at maximum travel of the pistons or diaphragms, except that reservoirs on the truck portion of an auto transporter need not meet this requirement;

(b) be capable of withstanding for 10 minutes an internal hydrostatic pressure of five times the air compressor cut-out pressure or 3 447.35 kPa (500 p.s.i.), whichever is the greater;

(c) be protected against loss of air pressure due to failure or leakage in the brake system between the service reservoir and the source of air pressure by check valves or equivalent devices whose proper functioning can be checked without disconnecting any air line or fitting; and

(d) have a manually operated condensate drain valve.

(5) Every trailer and trailer converter dolly equipped with an air brake system shall have

(a) one or more reservoirs to which air is delivered from the towing vehicle and that

(i) are capable of withstanding an internal hydrostatic pressure of 3 447.35 kPa (500 p.s.i.) for 10 minutes,

(ii) have manually operated condensate drain valves, and

(iii) are protected against loss of air pressure due to failure or leakage in the brake system between the

service reservoir and its source of air pressure by check valves or equivalent devices;

(b) a total service reservoir volume that is at least eight times the combined volume of all service brake chambers at maximum travel of the pistons or diaphragms, except that reservoirs on a heavy hauler trailer and on the trailer portion of an auto transporter need not meet this requirement; and

(c) a reservoir that is capable when pressurized to 620.52 kPa (90 p.s.i.) of releasing the vehicle's parking brakes at least once and that is unaffected by a loss of air pressure in the service brake system.

(6) Electrical failure of any part of an anti-lock system shall not increase the brake actuation and brake release times specified by the manufacturer.

(7) A trailer equipped with an anti-lock system that requires electrical power for operation shall obtain power from the stop lamp circuit and may obtain additional power from other circuits that have redundant sources of electrical power.

(8) Every truck, bus and chassis-cab equipped with an air brake system shall have an emergency brake system that

(a) is capable of being applied, released and modulated by means of the service brake control; and

(b) is capable of modulating the air in the supply or control line to the trailer by means of the service brake control with a single failure in the towing vehicle service brake system.

(9) Every vehicle except a trailer, the trailer portion of an auto transporter, a heavy hauler trailer and trailer converter dolly shall have a parking brake system that, under the conditions set out in subsection (13), has

(a) parking brakes that, in the event of any single leakage-type failure, in any other brake system, of a part designed to contain compressed air or brake fluid, other than a failure of a component of a brake chamber housing, conform to subparagraph (c)(i) or (ii) of this subsection and, when applied, are held in position by mechanical means;

(b) a parking brake control that

(i) is separate from the service brake control,

(ii) is operable by a person seated in the normal driving position,

(iii) can be identified in a manner that specifies the method of control operation, and

(iv) controls the parking brakes of the vehicle and the brakes of any vehicle equipped with air brakes that it is designed to tow; and

(c) at the manufacturer's option

(i) with all other brakes rendered inoperative, a static retardation force produced by the application of the parking brake during a static drawbar pull in a forward or rearward direction, that,

(A) in the case of a vehicle other than a trailer or a truck tractor with more than two axles, is such that the quotient

static retardation force

GAWR

is not less than 0.28 for an axle other than a steerable front axle,

(B) in the case of a truck tractor with more than two axles, is such that the quotient

static retardation force

GVWR

is not less than 0.14, and

(C) in the case of a trailer is such that the quotient

static retardation force

sum of non-steerable GAWR's

is not less than 0.23, or

(ii) with all parking brakes applied, the capability of causing the vehicle to remain stationary facing uphill or facing downhill on a smooth dry portland cement concrete roadway that has a 20 per cent grade when

(A) loaded to its gross vehicle weight rating, and

(B) at its unloaded vehicle weight plus 226.8 kg (500 pounds), including the driver and instrumentation.

(10) Every trailer, except a trailer converter dolly, shall have a parking brake system that

(a) conforms to paragraphs (9)(a) and (c), and

(b) exerts a force described in paragraph (9)(c) when the air pressure in the supply line is at atmospheric pressure,

except that an auto transporter trailer manufactured before January 1, 1981 and a heavy hauler trailer shall, at the manufacturer's option,

(c) meet the requirements of this subsection, or

(d) be fitted with brakes that apply automatically upon breakaway from the towing vehicle and maintain application for not less than fifteen minutes.

(11) Every trailer converter dolly shall have, at the manufacturer's option,

(a) a parking brake system that conforms to paragraphs (9)(a) and (c) and that exerts a force described in paragraph (9)(c) when the air pressure in the supply line is at atmospheric pressure; or

(b) an emergency brake system that automatically controls the service brakes when the service reservoir is at a pressure above 137.9 kPa (20 p.s.i.) and the supply line is at atmospheric pressure.

(12) For the purposes of subsection (13), where a range of conditions is specified, the vehicle shall be capable of meeting the requirements at all points within the range.

(13) For the purposes of subsection (9),

(a) except as otherwise specified, every vehicle shall be loaded to its gross vehicle weight rating distributed proportionally to its gross vehicle axle weight rating;

(b) the tire inflation pressure shall be as specified by the vehicle manufacturer for the gross vehicle weight rating;

(c) except as otherwise specified, the transmission selector control shall be in the neutral position, or the clutch shall be disengaged during static parking brake tests;

(d) all vehicle doors, windows, hood, trunk, cargo doors and other openings shall be in a closed position, except as required for instrumentation purposes;

(e) the ambient temperature shall be between 0° to 37.7°C (32°F and 100°F);

(f) the wind velocity shall be zero;

(g) brakes on a vehicle manufactured before January 1, 1977 shall be burnished before testing, at the manufacturer's option

(i) with the transmission in the highest gear appropriate for the initial speed set out in Column III of the table to this section by making 500 brake applications distributed for each step of the sequence set out in Column I of the table according to the number of brake applications set out in Column II the table and decelerate to 32.19 km/h (20 mph) as set out in Column III the table for each step, at the deceleration rate of 3.05 m/s^2 (10 fpsps) or at the vehicle's maximum deceleration rate, if less than 3.05 m/s^2 (10 fpsps), and

(A) after each brake application by accelerating to the speed specified and maintaining that speed until making the next brake application 1.6 km (1 mile), from the initial point of the previous brake application,

(B) if a vehicle cannot attain the specified speed in 1.6 km (1 mile), by continuing to accelerate until the specified speed is reached or until the vehicle has travelled 2.4 km (1.5 miles) from the initial point of the previous brake application,

(C) if during any of the brake applications made at an initial speed set out in Column III of the table to this section the hottest brake reaches 260°C (500°F), by making the remainder of the 500 applications from that speed or a speed necessary to maintain an after-stop temperature of $260^{\circ}\text{C} \pm 10^{\circ}\text{C}$ ($500^{\circ}\text{F} \pm 50^{\circ}\text{F}$), and by using any automatic pressure limiting valve to limit pressure as designed, except that any automatic front axle pressure limiting valve shall be bypassed if the temperature of the hottest brake on a rear axle

exceeds the temperature of the hottest brake on a front axle by more than 51.6°C (125°F), and any bypassed valve shall be reconnected if the temperature of the hottest brake on a front axle exceeds the temperature of the hottest brake on a rear axle by 37.7°C (100°F), and

(D) by adjusting the brakes as recommended by the vehicle manufacturer, or

(ii) with the transmission in the highest gear appropriate for 64.37 km/h (40 mph), by making 400 brake applications from 64.37 km/h to 32.19 km/h (40 mph to 20 mph) at a deceleration rate of 3.05 m/s^2 (10 fpsps) and

(A) after each brake application, accelerating to 64.37 km/h (40 mph) and maintaining that speed until making the next brake application at a point 2.41 km (1.5 miles) from the point of the previous brake application, and

(B) by adjusting the brakes as recommended by the vehicle manufacturer,

except that vehicles with parking brake systems that do not use the service brake friction elements, shall have their friction elements burnished according to the manufacturers recommendations prior to the parking brake test;

(h) brakes on a vehicle manufactured on or after January 1, 1977 shall be burnished before testing in accordance with subparagraph (g)(i), except that vehicles with parking brake systems that do not use the service brake friction elements, shall have their friction elements burnished according to the manufacturers recommendations prior to the parking brake test;

(i) static parking brake tests for a semi-trailer shall be conducted with the front end supported by an unbraked trailer converter dolly, the weight of which is included as part of the semi-trailer load;

(j) every vehicle equipped with an interlocking axle system or a front wheel drive system that is engaged and disengaged by the driver shall be tested with the system disengaged; and

(k) every vehicle with a liftable axle shall be tested

(i) at its gross vehicle weight rating with the liftable axle down, and

(ii) at its unloaded vehicle weight rating with the liftable axle up.

TABLE I
Brake Burnishing Sequence

Column I Sequence	Column II Number of brake applications	Column III			
		mph		km/h	
		Initial Speed	Decelerate	Initial Speed	Decelerate
1	175	40	to 20	64,37	to 32,19
2	25	45	to 20	72,42	to 32,19
3	25	50	to 20	80,47	to 32,19
4	25	55	to 20	88,51	to 32,19
5	250	60	to 20	96,56	to 32,19

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.
amended by

SOR/78-351 17 April, 1978 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 120(1) of Schedule IV; and subsection 120(10) of
Schedule IV.

SOR/79-547 26 July, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 120(1) of Schedule IV.

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 120 of Schedule IV is renumbered as section 121.

SOR/80-638 5 August, 1980 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 121(1) of Schedule IV; paragraph 121(3)(c) of
Schedule IV; paragraph 121(4)(a) of Schedule IV; paragraph
121(5)(b) of Schedule IV; subsection 121(8) of Schedule IV;
subsection 121(9) of Schedule IV preceding paragraph (b);
and subsection 121(10) of Schedule IV.

Motorcycle Brake Systems

122. (1) Subject to subsection (2), every motorcycle shall be equipped with

- (a) a split service brake system, or
- (b) two independently actuated service brake systems

that, when subjected to Motor Vehicle Safety Test Methods, section 122, "Motorcycle, Motor Driven Cycle and Moped Brake Systems", (30 August, 1980) in the sequence set out in Table II to this section, are capable of meeting the applicable requirements of this section.

(2) If a motorcycle is incapable of attaining a speed specified in the requirements of this section, its service brake system shall be capable of stopping the motorcycle from the multiple of 10 km/h (5 m.p.h.) that is 9 to 18 km/h (4 to 8 m.p.h.) less than the speed attainable in 1.6 km (1 mi.), within distances that do not exceed the corresponding distances specified in Table I.

(3) The service brake system of every motorcycle shall be capable of stopping the motorcycle, in three effectiveness tests, within the distance specified in

(a) column I of Table I to this section from 50 and 100 km/h (30 and 60 mph) in the first (preburnished) effectiveness test for a total service brake system;

(b) column II of Table I to this section from 50 and 100 km/h (30 and 60 mph) in the first (preburnished) effectiveness test for each independently actuated service brake system; and

(c) column III of Table I to this section from 50, 100 and 130 km/h (30, 60 and 80 mph) and the multiple of 10 km/h (5 mph) that is 9 to 18 km/h (4 to 8 mph) less than the speed attainable in 1.6 km (1 mile) if this speed is 150 km/h (95 mph) or greater in the second and final effectiveness tests.

(5) In the event of a pressure component leakage failure, other than a structural failure of either a brake master cylinder body in a split integral body type master cylinder system or a service brake system failure indicator body, the remaining portion of the hydraulic service brake system of a motorcycle shall continue to operate and be capable of stopping the vehicle from 50 km/h (30 m.p.h.) and 100 km/h (60 m.p.h.) within stopping distances that do not exceed the stopping distances specified in column IV of Table I.

(6) On every motorcycle, the control forces used for the baseline check fade stops and water recovery baseline check stops shall

(a) for the hand lever, be not less than 22 N (5 pounds) or more than 245 N (55 pounds); and

(b) for the foot pedal, be not less than 45 N (10 pounds) or more than 400 N (90 pounds).

(7) Every motorcycle shall be capable of making 10 fade stops from 100 km/h (60 m.p.h.) at a deceleration rate not lower than 4.6 m/s^2 (15 ft./s^2) for each stop.

(8) Every motorcycle shall be capable of making five fade recovery stops from 50 km/h (30 m.p.h.) at 3.05 to 3.35 m/s^2 (10 to 11 ft./s^2) for each stop with a control force application that

(a) in the case of a hand lever, does not exceed for the first four recovery stops 245 N (55 pounds), and for the fifth stop is within plus 90 N (20 pounds) and minus 45 N (10 pounds) of the average control force for the hand lever baseline check fade stop; and

(b) in the case of a foot pedal, does not exceed for the first four recovery stops 400 N (90 pounds), and for the fifth stop is within plus 90 N (20 pounds) and minus 45 N (10 pounds) of the average control force for the foot pedal baseline check fade stop.

(9) Every motorcycle shall, after its rear brake assembly and its front brake assembly have each been completely immersed in water for two minutes, be capable of making five water recovery stops from 50 km/h (30 m.p.h.) at 3.05 to 3.35 m/s^2 (10 to 11 ft./s^2) for each stop with a control force application that

(a) in the case of a hand lever, does not exceed for the first four recovery stops 245 N (55 pounds), and for the fifth stop is within plus 90 N (20 pounds) and minus 45 N (10 pounds) of the average control force for the hand lever, water recovery baseline check stop; and

(b) in the case of the foot pedal does not exceed for the first four recovery stops 400 N (90 pounds), and for the fifth stop is within plus 90 N (20 pounds) and minus 45 N (10 pounds) of the average control force for the foot pedal water recovery baseline check stop.

(10) Every three-wheeled motorcycle shall be equipped with a parking brake system of a friction type that

(a) when applied is held in position by mechanical means; and

(b) is capable of holding the vehicle stationary, to the limits of traction of the braked wheels, for five minutes in both the forward and reverse directions, on a 30 per cent grade with an applied force of

(i) not more than 245 N (55 pounds) for a hand operated system, and

(ii) not more than 400 N (90 pounds) for a foot operated system.

(11) Every motorcycle equipped with a split service brake system shall have a failure indicator consisting of one or more electrically operated service brake system failure indicator lamps mounted in front of and in clear view of the operator that

(a) are activated

(i) in the event of pressure failure in any part of the service brake system, other than a structural failure of a brake master cylinder body in a split integral body type master cylinder system or a service brake system failure indicator body, before or on the application of not more than 90 N (20 pounds) pedal force on the service brake, or

(ii) without the application of pedal force, when the level of brake fluid in a master cylinder reservoir drops to less than the recommended safe level specified by the manufacturer or one-half the fluid reservoir capacity, whichever is the greater,

and remain activated as long as the condition exists;

(b) unless a failure exists in the service brake system, are activated when

(i) the ignition switch is turned from the "off" to the "on" position and are deactivated when the engine is started, or

(ii) the ignition switch is turned from the "off" to the "start" position and are deactivated on the return of the switch to the "on" position; and

(c) are equipped with a red lens that has on or adjacent to it a symbol approved by the International Organization for Standardization (ISO), or information indicating that

the brakes have failed in letters not less than 2.5 mm (0.094 in) in height, legible to the driver in daylight when lighted.

(12) The hydraulic brake system of every motorcycle shall have a master cylinder with a separate reservoir for each brake circuit

(a) equipped with its own cover, seal and cover retention device; and

(b) with a minimum capacity equivalent to one and one-half times the total fluid displacement resulting when all the wheel cylinders or caliper pistons served by the reservoir move from a new lining, fully retracted position to a fully worn, fully applied position, and where adjustment is a factor, the worst condition of adjustment shall be used for this measurement.

(13) Every motorcycle with a hydraulic brake system shall have a brake fluid warning statement, in letters at least 2.5 mm (0.094 in.) in height, that sets out information concerning replacement brake fluid and that is

(a) permanently affixed, engraved or embossed, of a colour that contrasts with its background, if it is not permanently engraved or embossed; and

(b) located so as to be visible by direct view on or within 100 mm (4 inches) of the brake fluid reservoir filler plug or cap.

(14) The brake system on a motorcycle shall be installed so that the lining thickness of drum brake shoes may be visually inspected, either directly or by use of a mirror, without removing the drums, and so that the disc brake friction lining thickness may be visually inspected without removing the pads.

(15) Failure of any component in a mechanical service brake system on a motorcycle shall not result in a loss of braking ability in the other service brake system on the motorcycle.

(16) A leakage failure of a pressure component in a hydraulic service brake system on a motorcycle shall not result in a loss of braking ability in the other service brake system on the motorcycle.

(17) Every motorcycle shall be capable of completing all braking requirements of this section without detachment of brake linings from the shoes or pads, detachment or fracture

of any brake system components or leakage of fluid or lubricant at the wheel cylinder, master cylinder reservoir cover, seal or retention device.

TABLE I
STOPPING DISTANCES FOR EFFECTIVENESS, FADE AND PARTIAL SYSTEM TESTS

Vehicle Test Speed		I		II		III		IV	
		Preburnish Effectiveness Total System		Preburnish Effectiveness Partial Mechanical Systems		Effectiveness Total System		Effectiveness Partial Hydraulic Systems	
km/h	mph	m	ft.	m	ft.	m	ft.	m	ft.
20		3		6.5		2		5	
	15		13		30		11		25
30		6.5		14		5		11.5	
	20		24		54		19		44
40		11		25		9		20	
	25		37		84		30		68
	30		54		121		43		97
50		17.5		39.5		14		31.5	
	35		74		165		58		132
60		25.5		56.5		20		45.5	
	40		96		216		75		173
70		34.5		77		27		62	
	45		121		273		95		218
80		45		101		38.5		81	
	50		150		337		128		264
	55		181		407		155		326
90		57		127.5		49		102.5	
	60		216		484		185		388
100		70		157.5		60.5		126.5	
	65						217		455
110						76.5		153	
	70						264		527
120						91		182	
	75						303		606
	80						345		689
130						107		214	
	85						389		778
140						137.5		248	
	90						484		872
150						158		284.5	
	95						540		971
160						179.5		324	
	100						598		1 076
	105						659		1 188
170						203		365.4	
	110						723		1 302
180						227.5		410	
	115						791		1 423
190						253		456.5	
	120						861		1 549
200						280.5		506	

TABLE II
BRAKE TEST SEQUENCE AND REQUIREMENTS

SEQUENCE	Test Procedure	Requirements
1. Instrumentation check	2.4	
2. First (Preburnish) effectiveness test:		
(a) Service brake system	3.1	(3)
(b) Partial service brake system	3.2	(3)
3. Burnish procedure	3.3	
4. Second effectiveness test	3.4	(3)
5. First fade and recovery test	3.5 to 3.7	(6) to (8)
6. Reburnish	3.8	
7. Final effectiveness test:		
(a) Service brake system	3.9	(3)
(b) Partial service break system	3.10	(5)
8. Parking brake test (three-wheeled motorcycles only)	3.11	(10)
9. Water recovery test	3.12, 3.13	(9)
10. Design durability	3.14	(17)

Established by

SOR/81-88 1 July, 1981 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act.

amended by

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1988

The heading preceding section 122 of Schedule IV; subsection 122(1) of Schedule IV preceding paragraph (a); subsection 122(2) of Schedule IV; subsection 122(3) of Schedule IV preceding paragraph (a); subsections 122(4) and (5) of Schedule IV; subsection 122(6) of Schedule IV preceding paragraph (a); subsection 122(7) of Schedule IV; subsection 122(8) of Schedule IV preceding paragraph (a); subsection 122(9) of Schedule IV preceding paragraph (a); subsection 122(11) of Schedule IV preceding paragraph (a); subsection 122(12) of Schedule IV preceding paragraph (a); subsection 122(13) of Schedule IV preceding paragraph (a); and subsections 122(14) to (17) of Schedule IV.

Controls and Displays--Two and Three Wheeled Vehicles

123. (2) This section does not apply to vehicles designed and sold exclusively for use by law enforcement agencies.

(3) Every vehicle shall be equipped with the following equipment controls, namely,

- (a) a horn;
- (b) a fuel control;
- (c) a twist-grip throttle;
- (d) a supplemental engine stop;
- (e) a front wheel brake;
- (f) a rear wheel brake; and
- (g) subject to subsection (4), an ignition switch.

(4) Paragraph (3)(g) is optional in the case of a limited-speed motorcycle.

(5) Where a vehicle is equipped with an equipment control set out in column I of an item of Table I to this section, the equipment control shall be located as specified in column II of that item and shall be operable as specified in column III of that item and, in the case of hand operated controls, the equipment control shall be operable

(a) by the operator's left hand, if the control is located on the left handlebar, or

(b) by the operator's right hand, if the control is located on the right handlebar

throughout the full range of the control without removal of the operating hand from the handlebar.

(6) Where a vehicle with an automatic clutch is equipped with a supplemental rear brake control, the control shall be located on the left handlebar.

(7) Where a vehicle is equipped with self-proportioning or anti-lock braking devices utilizing a single control for front and rear brakes, the control shall be located and operable in the same manner as a rear brake control.

(8) If a vehicle is provided with a speedometer or a neutral gear position indicator, the displays therefor shall

be visible to a seated operator under daylight conditions and shall be provided with illumination

(a) for the speedometer by any means, whenever the headlamp is activated, except that at the manufacturer's option, the speedometer need not be illuminated in daytime pursuant to section 108 of this schedule; and

(b) for the neutral gear position indicator, by a green tell-tale that is visible to a seated operator under daylight conditions, whenever the gear selector is in the neutral position.

(9) Where a vehicle is equipped with an equipment control set out in column I of an item of Table II to this section,

(a) the control for that equipment shall be identified by the word, words or letters set out in column II of that item or a corresponding symbol approved by the International Organization for Standardization (ISO);

(b) the function performed by the equipment control at a specific position shall be indicated as set out in column III of that item;

(c) any word, words or letters set out in column II or III of that item or a symbol referred to in paragraph (a) shall be placed on or adjacent to the control and, except in the case of a fuel control, shall appear in an upright position when viewed by a seated operator; and

(d) the abbreviations used in columns II and III of that item are minimum requirements and appropriate words may be spelled out in full.

(10) A vehicle stand shall automatically fold rearward and upward if it is in contact with the ground when the vehicle is moving forward.

(11) Footrests shall be provided for each designated seating position and each footrest for a passenger other than an operator shall fold rearward and upward when not in use.

(12) When fitted on vehicles,

(a) speedometers shall be calibrated in kilometres per hour; and

(b) odometers and trip record counters shall be calibrated in kilometres.

TABLE I

Vehicle Control Location and Operation Requirements

Column I	Column II	Column III
Equipment Control	Location	Operation
1. Manual clutch or integrated clutch and gear change	Left handlebar	Squeeze to disengage clutch.
2. Foot operated gear change	Left foot control	An upward motion of the operator's toe shifts transmission toward lower numerical gear ratios (commonly referred to as "higher gears"), and a downward motion toward higher numerical gear ratios (commonly referred to as "lower gears"). If three or more gears are provided it shall not be possible to shift from the highest gear directly to the lowest gear or vice versa.
3. Headlamp upper-lower beam control	Left handlebar	Up for upper beam, down for lower beam.
4. Horn	Left handlebar	Push to activate.
5. Turn signal lamps	Handlebars	At the option of the manufacturer.
6. Ignition	"Off" - counterclockwise from other positions when viewed from in front of the ignition lock opening.
7. Manual fuel shutoff control	"Off" - control horizontally forward; "On" - control vertically downward; "Reverse" - (if fitted) - control vertically upward.
8. Twist-grip throttle	Right handlebar	Self-closing to idle in a clockwise direction, when viewed from the end of the handlebar, after release of hand.
9. Supplemental engine stop	Right handlebar	
10. Front wheel brake	Right handlebar	Squeeze to engage.
11. Rear wheel brake	Right foot control	Depress to engage.
	In the case of a motor-cycle that has a motor that produces 3.75 kW (5 b.h.p.) or less	
	(a) right foot control	Depress to engage.
	(b) left handlebar	Squeeze to engage.
	or	
	(c) pedals	Reverse pedalling.

TABLE II

Vehicle Control and Display Identification Requirements

Column I	Column II	Column III
Equipment	Control and Display Identification	Position Identification of Control or Display Function
1. Ignition	Ignition or Contact	Off or Arrêt
2. Supplemental engine stop	Engine stop or Arrêt du Moteur	Off or Arrêt, Run or Marche
3. Manual choke	Choke or Étrangleur	
4. Electric starter	Start or Demarr. ¹
5. Headlamp upper-lower beam control	Lights or Phare	Hi or Route, Lo or Code
6. Horn	Horn or Avertisseur	
7. Turn Signal	Turn or Clignotant	L or G, R or D
8. Speedometer	km/h	km/h increase in a clockwise direction. Major numerals and graduations, and minor graduations appear at the 20,10 km/h intervals, respectively.
9. Neutral indicator	Neutral or Mort	
10. Upper beam indicator	High beam or Faisceau-route	
11. Fuel control	Fuel or Carburant	Off or Fermé, On or Ouvert, Res or Aux, Pri, Pr or Amorage

¹ Required only if electric starter is separate from ignition switch.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-306 30 March, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective April 1, 1980

Item 11 of Table I to section 123 of Schedule IV.

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Renumbered from section 121 of Schedule IV in the Consolidated Regulations of Canada to section 123.

SOR/82-656 30 June, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1982

Revoked and replaced.

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1988

Subsection 123(1) of Schedule IV is revoked; subsection 123(4) of Schedule IV; and item 11 of Table I to section 123 of Schedule IV.

Accelerator Control Systems

124. (1) In this section, in the case of vehicles powered by electric motors, the words "throttle" and "idle" refer to the motor speed controller and motor shutdown, respectively.

(2) Every vehicle shall meet the requirements set out in subsections (3) to (5)

(a) when the engine is running under any load condition; and

(b) at any ambient temperature between -40°F (-40°C) and 125°F (52°C) after 12 hours of conditioning at any temperature within that range.

(3) Every vehicle shall be equipped with at least two sources of energy capable of returning the throttle to the idle position, within the applicable time limit specified in subsection (5), from any accelerator position or speed upon release of the driver operated control or in the event of failure of one source of energy by a single disconnection or severance of any one component of the accelerator control system.

(4) The throttle of every vehicle shall return to the idle position from any accelerator position

(a) whenever any one component of the accelerator control system becomes disconnected or severed at a single point or the driver operated control is released; and

(b) within the applicable time limit specified in subsection (5) measured from

(i) the time of disconnection or severance, or

(ii) the time of the first removal of the opposing actuating force by the driver.

(5) The maximum time for the return of the throttle of a vehicle to the idle position is

(a) 1 second for vehicles of 10,000 pounds (4 536 kg) or less GVWR;

(b) 2 seconds for vehicles of more than 10,000 pounds (4 536 kg) GVWR; and

(c) 3 seconds for any vehicle that is exposed to ambient temperature of 0° to -40°F (-17.7°C to -40°C) during the test or any portion of the 12-hour conditioning period.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 122 of Schedule IV is renumbered as section 124.

PART III

Head Impact Area

Section 200 of Schedule IV of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/83-138 dated September 1, 1983, published in The Canada Gazette Part II, Volume 117, No. 4, dated February 23, 1983.

Occupant Protection

201. (1) In this section,

“head impact area” means the non-glazed surfaces of the interior of the vehicle that are capable of being contacted statically by the head form of a measuring device in accordance with the following procedure or its graphic equivalent:

(a) at each designated seating position, by placing the pivot point of the measuring device,

(i) for seats that are adjustable fore and aft, at

(A) the seating reference point, and

(B) a point 130 mm (5 inches) horizontally forward of the seating reference point displaced vertically 20 mm (0.75 inches) or a distance equal to the rise that results from a 130 mm (5 inches) forward adjustment of the seat, and

(ii) for seats that are not adjustable fore and aft, at the seating reference point,

(b) with the pivot point to top-of-head dimension at each adjustment allowed for the measuring device by the interior dimension of the vehicle, by determining all contact points above the lower windshield glass line and forward of the seating reference point, and

(c) beginning with the head form at each contact point referred to in paragraph (b) and with the measuring device in a vertical position if no contact point exists for a particular adjusted length, by pivoting the measuring device forward and downward through all arcs in vertical planes to 90° each side of the longitudinal plane through the seating reference point until the head form contacts an interior surface or until it is tangent to a horizontal plane 25 mm (1 inch) above the seating reference point, whichever occurs first;

“interior compartment door” means any door in the interior of a vehicle installed by the manufacturer as a cover for storage space normally used for personal effects;

“measuring device” means a device having a spherical head form with a diameter of 170 mm (6.5 inches) and a pivot point to top-of-head dimension infinitely adjustable from 740 mm (29 inches) to 840 mm (33 inches);

“pelvic impact area” means that area of the door or body side panel adjacent to any outboard designated seating position that is bounded by:

(a) horizontal planes 180 mm (7 inches) above and 100 mm (4 inches) below the seating reference point, and

(b) vertical transverse planes 200 mm (8 inches) forward and 50 mm (2 inches) rearward of the seating reference point.

(2) This section does not apply to trucks, multipurpose passenger vehicles and buses with a GVWR greater than 4 500 kg (10,000 pounds).

(3) The deceleration of a spherical head form with a weight of 6.8 kg (15 pounds) and a diameter of 170 mm (6.5 inches) impacting, at a relative velocity of 24 km/hr (15 miles per hour), that area of an instrument panel that is within the head impact area other than

(a) console assemblies,

(b) areas less than 130 mm (5 inches) inboard from the junction of the instrument panel attachment to the body side inner structure,

(c) areas closer to the windshield junction than those that are capable of being contacted statically by the head form with the windshield in place,

(d) areas outboard of any point of tangency to the instrument panel of the head form tangent to and inboard of a vertical longitudinal plane tangent to the inboard edge of the steering wheel, and

(e) areas below any point at which a vertical line is tangent to the rearmost surface of the instrument panel

shall not exceed 80 g continuously for more than 3 milliseconds when tested in accordance with SAE Recommended Practice J921 Instrument Panel Laboratory Impact Test Procedure (June 1965) and using the instrumentation specified in, or instrumentation that meets the performance requirements specified in, SAE Recommended Practice J977 Instrumentation For Laboratory Impact Tests (November 1966) except that

(f) the origin of the line tangent to the instrument panel surface shall be a point on a transverse horizontal line through a point 130 mm (5 inches) horizontally forward of the seating reference point of the front outboard

passenger designated seating position displaced vertically 19 mm (0.75 inch) or a distance equal to the rise that results from a 130 mm (5 inches) forward adjustment of the seat, and

(g) the direction of impact shall be in a vertical plane parallel to the longitudinal axis of the vehicle or in a plane normal to the surface at the point of contact.

(4) The deceleration of a spherical head form with a weight of 6.8 kg (15 pounds) and a diameter of 170 mm (6.5 inches) impacting, at a relative velocity of 24 km/hr (15 miles per hour), that area of a seat back that is within the head impact area, except in respect of seats installed in school buses that comply with the requirements of section 222 when tested in accordance with Motor Vehicle Safety Test Methods, Section 222, School Bus Passenger Seating and Crash Protection (December 19, 1983), and rearmost, side-facing, back-to-back, temporary or folding auxiliary jump seats, shall not exceed 80 g continuously for more than 3 milliseconds when tested in accordance with SAE Recommended Practice J921 (June 1965) and using the instrumentation specified in, or instrumentation that meets the performance requirements specified in, SAE Recommended Practice J977 (November 1966), except that

(a) the origin of the line tangent to the uppermost component of the seat back frame shall be a point on a transverse horizontal line through the seating reference point of the right rear designated seating position with adjustable forward seats in their rearmost design driving position and reclinable forward seat backs in their normal design driving position;

(b) the direction of impact shall be in a vertical plane parallel to the longitudinal axis of the vehicle or in a plane normal to the surface at the point of contact;

(c) in the case of a seat

(i) without head restraints installed, each test shall be performed

(A) in respect of each individual split seat back or bucket seat back at a point within 100 mm (4 inches) left and right of its centreline, and

(B) in respect of each bench seat back between points 100 mm (4 inches) outboard of the centreline of each outboard designated seating position, or

(ii) with head restraints installed, each test shall be conducted at a point on the head restraint centreline with the head restraint in place at its lowest adjusted position; and

(d) in the case of a type of seat that is installed in more than one body style, tests conducted at the fore and aft extremes identified by application of paragraph (a) shall be deemed to have demonstrated all intermediate conditions.

(5) Every interior compartment door assembly located in an instrument panel, console assembly, seat back or side panel adjacent to a designated seating position shall remain closed when

(a) tested by subjecting the interior compartment door latch system to an inertia load of 10 g in a horizontal transverse direction and an inertia load of 10 g in a vertical direction in accordance with the procedure described in section 5 of SAE Recommended Practice J839b Passenger Car Side Door Latch Systems (May 1965) or an approved equivalent procedure; and

(b) tested by

(i) impacting the vehicle perpendicularly into a fixed collision barrier at a forward longitudinal velocity of 48 km/hr (30 miles per hour), or

(ii) subjecting the interior compartment door latch system to a horizontal inertia load of 30 g in a longitudinal direction in accordance with the procedure described in section 5 of SAE Recommended Practice J839b Passenger Car Side Door Latch Systems (May 1965) or an approved equivalent procedure.

(6) An interior compartment door located in an instrument panel or seat back shall remain closed when the instrument panel or seat back is tested in accordance with subsection (3) or (4), as the case may be.

(7) All interior compartment door assemblies that have a locking device shall be tested with the locking device in an unlocked position.

(8) A sun visor shall be provided at each front outboard designated seating position on every vehicle and shall be constructed of, or covered with, energy absorbing material and so mounted that each mounting shall not have a rigid material edge with a radius of less than 3 mm (0.125 inch)

that is statically contactable by a spherical head form with a diameter of 170 mm (6.5 inches).

(9) Each arm-rest installed on a vehicle, other than an arm-rest referred to in subsection (10), shall

(a) be constructed with energy absorbing material and shall deflect or collapse laterally at least 50 mm (2 inches) without permitting contact with any underlying rigid material;

(b) be constructed with energy absorbing material and shall deflect or collapse to within 32 mm (1.25 inches) of a rigid test panel surface without permitting contact with any rigid material, and the vertical height of any rigid material between 13 mm (0.5 inch) and 32 mm (1.25 inches) from the panel surface shall not be less than 25 mm (1 inch); or

(c) when measured vertically in side elevation, provide at least 50 mm (2 inches) of coverage within the pelvic impact area along not less than 50 continuous mm (2 continuous inches) of its length.

(10) Each arm-rest that folds into the seat back or between two seat backs of a vehicle shall

(a) comply with subsection (9); or

(b) be constructed of or covered with energy absorbing material.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/83-138 4 February, 1983 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1983

Section 201 of Schedule IV.

SOR/86-453 17 April, 1986 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 201(4) of Schedule IV preceding paragraph (a).

Head Restraints

202. (1) In this section, "manikin" means a manikin described in SAE Recommended Practice J826 Manikins For Use In Defining Vehicle Seating Accommodation, (November 1962).

(2) A head restraint shall be provided at each outboard front designated seating position on a vehicle

(a) when tested during a forward acceleration of not less than 8g on the seat supporting structure, limits rearward angular displacement of the head reference line to 45 degrees from the torso reference line; or

(b) when adjusted to its fully extended design position,

(i) has an overall height of not less than 27.5 inches when measured perpendicularly to a line that passes through the seating reference point and is perpendicular to the torso line,

(ii) has a lateral width of not less than 10 inches in the case of a bench-type seat or 6.75 inches in the case of an individual seat when measured either 2.5 inches below the top of the head restraint or 25 inches above the seating reference point,

(iii) does not allow the rearmost portion of the head form to be displaced more than 4 inches perpendicularly rearward of the extended displaced torso reference line during the application of the test load, and

(iv) withstands an increasing load until either failure of the seat or seat back occurs or the load so increased is equal to 200 pounds,

(3) The test referred to in paragraph (2)(a) shall be carried out as follows:

(a) the head restraint shall be in its fully extended design position;

(b) reference lines shall be established on the exterior profile of the head and torso of a dummy or an approved equivalent test device by

(i) positioning the dummy's back on a horizontal flat surface with the lumbar joints in a straight line,

(ii) rotating the head of the dummy rearward until the back of the head contacts the surface referred to in subparagraph (i),

(iii) positioning the back of a two-dimensional manikin against the surface referred to in subparagraph (i) and alongside the dummy in such a manner that the H-point of the manikin is aligned with the H-point of the dummy,

(iv) establishing the torso line of the manikin in the manner set out in SAE Aerospace-Automotive Drawing Standards Section 2.3.6, P. E1.01, (September 1963),

(v) establishing the dummy torso reference line by superimposing the torso line of the manikin on the torso of the dummy, and

(vi) establishing the head reference line by extending the dummy torso reference line onto the head;

(c) the dummy referred to in paragraph (b) shall have the weight and seated height of a 95th percentile adult male and an approved representation of a human articulated neck structure;

(d) at each designated seating position having a head restraint, the dummy shall be placed in the manufacturer's recommended design seated position and snugly restrained by a Type 1 seat belt referred to in section 209 of this Schedule;

(e) a forward acceleration shall be applied to the structure supporting the seat in such a manner that when graphically depicted the magnitude of the acceleration curve shall not be less than that of a half-sine wave having an amplitude of 8g and a duration of 80 milliseconds and not more than that of a half-sine wave having an amplitude of 9.6g and a duration of 96 milliseconds; and

(f) the maximum rearward angular displacement of the head reference line from the dummy torso reference line shall be measured.

(4) The test referred to in paragraph (2)(b) shall be carried out as follows:

(a) a test device having the back pan dimensions of the three-dimensional manikin and the centreline of the head room probe in the full back position shall be placed at the manufacturer's recommended design seated position;

(b) the displaced torso reference line shall be established by applying a rearward moment of 3,300 pound-inches about the seating reference point to the seat back through the back pan of the test device so placed;

(c) the back pan shall be removed and using a 6.5-inch diameter spherical head form or a cylindrical head form having a 6.5-inch diameter in plan view and a 6-inch height in profile view a rearward initial load shall be applied perpendicular to the displaced torso reference line and 2.5 inches below the top of the head restraint sufficient to produce a 3,300 pound-inches moment about the seating reference point; and

(d) the initial load shall be gradually increased to 200 pounds or until the seat or seat back fails, whichever occurs first.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Driver Impact Protection

203. (1) Subject to subsection (2), when the steering control system of a vehicle is impacted by a body block in accordance with SAE Recommended Practice J944 Steering Wheel Assembly Laboratory Test Procedure, (December 1965), or an approved equivalent, at a relative velocity of 24.1 km/h (15 mph), the impact force developed on the chest of the body block and transmitted to the steering control system shall not exceed 11.1 kN (2,500 pounds), except for intervals whose cumulative duration does not exceed 3 milliseconds.

(2) Subsection (1) does not apply to vehicles that meet the frontal crash requirements of section 208 by means other than seat belt assemblies or to trucks, multipurpose passenger vehicles or buses with a GVWR greater than 4 500 kg (10,000 pounds) or to walk-in van type trucks.

(3) The steering control system of a vehicle shall be constructed in such a manner that, during normal driving manoeuvres, no component or attachment, including any horn actuating mechanism and trim hardware, is capable of catching the clothing, watch, rings, bracelets, other than bracelets with loosely attached or dangling members, or other jewellery of the driver.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-719 9 October, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 203 of Schedule IV.

SOR/83-138 4 February, 1983 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective 1 September, 1983

Subsections 203(1) and (2) of Schedule IV.

Steering Column Rearward Displacement

204. (1) Subject to subsection (2), when a vehicle is impacted perpendicularly into a fixed collision barrier at a forward longitudinal velocity of 48 km/h (30 m.p.h.), the upper end of the steering column and steering shaft shall not be displaced horizontally rearward parallel to the longitudinal axis of the vehicle in relation to an undisturbed point on the vehicle more than 130 mm (5 inches), as determined by dynamic measurement.

(2) When a vehicle is impacted as described in subsection (1) at a velocity of not less than 48 km/h (30 m.p.h.) or more than 53 km/h (33 m.p.h.), the displacement of the steering column may be corrected to 48 km/h (30 m.p.h.) by multiplying the measured displacement by the inverse ratio of the square of the velocities.

(3) When a vehicle is impacted as described in subsection (1) with an anthropomorphic test device at the driver's seating position, the impact force developed on the chest is not required to be measured.

(4) This section does not apply to

(a) any walk-in van type truck; or

(b) any truck, multipurpose passenger vehicle or bus with a GVWR greater than 4 500 kg (10,000 lbs); or

(c) any truck, multipurpose vehicle, or bus with an unloaded vehicle mass greater than 1 800 kg (4,000 lbs).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-440 12 June, 1980 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 204 of Schedule IV.

SOR/83-138 4 February, 1983 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1983

Section 204 of Schedule IV by adding subsection 204(4).

Glazing Materials

205. (1) Subject to subsections (2), (3), (4) and (9), glazing materials used in all vehicles except trailers other than bus trailers shall meet the requirements of ANS Z26.

(2) In the case of motor homes,

(a) glazing material that meets the requirements of item 4, 5, 8 or 9 of ANS Z26 may be used except in the windshield and windows to the immediate right and left of the driver; and

(b) glazing material that meets the requirements of item 6 or 7 of ANS Z26 may be used in windows and doors, other than the windshield, forward-facing windows and windows to the immediate right and left of the driver.

(3) Plastic materials that meet all the requirements of item 5 or 7 of ANS Z26 may be used in a vehicle in the following locations at levels that are not requisite for driving visibility:

(a) windows and doors in motor homes, other than

(i) the windshield,

(ii) windows to the immediate right and left of the driver, and

(iii) in the case of flexible plastics, forward-facing windows;

(b) motorcycle windshields below the intersection of a horizontal plane 380 mm (15 in.) vertically above the lowest seating position;

(c) windows for standing passengers in buses;

(d) interior partitions;

(e) openings in the roof; and

(f) flexible curtains, readily removable windows or ventilators used in conjunction with readily removable windows.

(4) For the purposes of this section, materials that meet all the requirements of Test Nos. 19 and 20 of ANS Z26 other than chemical resistance to carbon tetrachloride as required in those tests need not be tested for that chemical resistance.

(5) For the purposes of this section, glazing materials for use in multipurpose passenger vehicles and chassis-cabs shall meet the requirements for glazing materials for use in trucks specified in ANS Z26.

(6) Glazing material installed in vehicles other than school buses shall have its exposed edges treated in accordance with SAE Recommended Practice J673a Automotive Glazing (August 1967).

(7) The exposed edges of non-tempered glazing material installed in school buses shall be banded.

(8) Each piece of glazing material installed in a vehicle shall legibly and permanently bear thereon

(a) the marking required by ANS Z26;

(b) in the case of the materials specified in subsection (9), the marks "AS 12" and "AS 13" to identify, respectively, rigid plastic materials and flexible plastic materials; and

(c) an approved code mark assigned by the Minister to the prime glazing material manufacturer, in letters and numbers not less than 1.8 mm (0.07 inch) in height.

(9) Subject to subsection (4) and paragraph (8)(b), plastic materials that meet all the requirements of item 5 or 7 of ANS Z26 other than chemical resistance to undiluted denatured alcohol Formula SD No. 30 as required in Test Nos. 19 and 20 of ANS Z26 may be used in the locations specified in subsection (3).

(10) Glazing material that meets the requirements of item 1A of ANS Z26 may bear the identifying mark "AS 14" instead of or in addition to the marking required by reason of paragraph (8)(a).

(11) Where a piece of glazing material that meets the requirements of item 1A of ANS Z26 is installed in a vehicle, the piece shall have affixed thereto a label that is removable therefrom by hand without the use of any tool and that either refers to the Owner's Manual for the vehicle for specific instructions for the care and cleaning of the piece or contains the following information:

(a) identification of the piece by means of the trade mark used in association therewith by the manufacturer thereof;

(b) instructions for cleaning the piece, including cleaning agents to be used, that will minimize loss of transparency as a result of the cleaning; and

(c) instructions for the removal of frost and ice from the piece.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/82-656 30 June, 1982 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1982

Paragraph 205(3)(b) of Schedule IV.

SOR/84-336 19 April, 1984 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 205(1) of Schedule IV, subsection 205(3) of Schedule IV preceding paragraph (a), subsection 205(4) of Schedule IV, subsection 205(8) of Schedule IV and section 205 of Schedule IV by adding subsection (9).

SOR/86-161 23 January, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 205(7) of Schedule IV and section 205 of Schedule IV by adding subsections (10) and (11).

SOR/88-268 5 May, 1988 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1988

Paragraph 205(3)(b) of Schedule IV.

Door Latches, Hinges and Locks

206. (1) In this section, "cargo-type door" means a door designed primarily to accommodate cargo loading and includes a two-part door that latches to itself.

(2) This section applies only to side doors that lead directly into a compartment containing seating accommodation and that are not

(a) folding doors;

(b) roll-up doors; or

(c) doors designed to be easily attached to or removed from a vehicle intended for operation without such doors.

(3) Each hinged door installed on a vehicle, except a cargo-type door, shall be provided with

(a) a door latch and striker assembly that

(i) has a fully latched position and a secondary latched position,

(ii) when in the fully latched position does not separate on the individual application of

(A) a longitudinal load of 2,500 pounds, and

(B) a transverse load of 2,000 pounds, and

(iii) when in the secondary latched position does not separate on the individual application of

(A) a longitudinal load of 1,000 pounds, and

(B) a transverse load of 1,000 pounds;

(b) a door latch that does not disengage from the fully latched position when, with its locking mechanism disengaged, a longitudinal or transverse inertia load of 30g is applied to the door latch system including the latch and its actuating mechanism;

(c) a door hinge system that supports the door and does not separate on the individual application of

(i) a longitudinal load of 2,500 pounds, and

(ii) a transverse load of 2,000 pounds; and

(d) a locking mechanism that has an operating means in the interior of the vehicle and that when engaged

(i) in the case of a front door, renders inoperative the outside door handle or other outside latch release control, and

(ii) in the case of a rear door of a passenger car and multipurpose passenger vehicle, renders inoperative both the outside and inside door handles or other latch release controls.

(4) Each hinged cargo-type door installed on a vehicle shall be provided with

(a) a door latch system that does not separate in the latched position on the individual application of

(i) a longitudinal load of 2,500 pounds, and

(ii) a transverse load of 2,000 pounds; and

(b) a door hinge system that supports the door and does not separate on the individual application of

(i) a longitudinal load of 2,500 pounds, and

(ii) a transverse load of 2,000 pounds.

(5) When more than one latch system is used on a door referred to in subsection (4), the load requirement of paragraph (4)(a) may be divided among the total number of latch systems.

(6) Each sliding door installed on a vehicle shall be provided with a track and slide combination or other supporting means that does not separate when a total transverse load of 4,000 pounds is applied with the door in the closed position.

(7) Compliance with paragraphs (3)(a) and (b) shall be demonstrated in accordance with paragraphs 4 and 5 respectively of SAE Recommended Practice J839b Passenger Car Side Door Latch Systems, (January 1968) or, in the case of paragraph (3)(b), by an approved test method.

(8) Compliance with paragraph (3)(c) and paragraph (4)(b) shall be demonstrated in accordance with paragraph 4 of SAE Recommended Practice J934 Vehicle Passenger Door Hinge Systems, (July 1965), except that for piano-type hinges the hinge spacing requirements of SAE Recommended Practice J934, (July 1965), shall not be applicable and arrangement of the

test fixture shall be altered as necessary so that the test load shall be applied to the complete hinge.

(9) Compliance with paragraph (4)(a) shall be demonstrated in accordance with paragraphs 4.1 and 4.3 of SAE Recommended Practice J839b Passenger Car Side Door Latch Systems, (January 1968), except that an equivalent static test fixture may be substituted for that shown in Figure 2 of SAE Recommended Practice J839b, (January 1968), if necessary.

(10) Compliance with subsection (6) shall be demonstrated in the vehicle or with the door retention components in a bench test fixture by applying an outward transverse load of 2,000 pounds to the load-bearing member of one edge of the door and 2,000 pounds to the load-bearing member of the opposite edge of the door.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Anchorage of Seats

207. (1) Each vehicle shall have an occupant seat for the driver and such occupant seat and all other occupant seats except a side-facing seat or a bus passenger seat shall, when subjected to Motor Vehicle Safety Test Methods, Section 207, Anchorage of Seats, approved December 7, 1973, withstand, when installed in the vehicle

(a) in any position to which it can be adjusted,

(i) the application of a force equal to 20 times the weight of the seat applied separately in

(A) a forward, and

(B) a rearward

longitudinal direction through the centre of gravity of the seat, and

simultaneously, in the case of a seat having one or more seat belt assemblies attached directly to it,

(ii) the application of a force equal to the total load imposed on the seat by simultaneous application in the directions referred to in clauses (i)(A) and (B) of the respective loads required by section 210 of this Schedule for the seat belt assemblies so attached; and

(b) in its rearmost position, application of a force that

(i) produces a moment of 3,300 pound-inches about the seating reference point for each designated seating position for which the occupant seat is designed, and

(ii) is applied to the upper seat back or the upper cross-member of the seat back

(A) in a rearward longitudinal direction for forward-facing seats, and

(B) in a forward longitudinal direction for rearward-facing seats.

(2) Except for vertical movement of non-locking suspension type occupant seats in trucks or buses, no occupant seat

shall change its position adjustment during any application of force referred to in paragraphs (1)(a) and (b).

(3) Except in the case of a passenger seat in a bus and a seat having a back that is only adjustable for the comfort of the occupant, a hinged or folding occupant seat or occupant seat back shall be equipped with

(a) a self-locking device for restraining the hinged or folding seat or seat back, and

(b) a control for releasing the self-locking device.

(4) Where a designated seating position is immediately behind a seat equipped with the self-locking device referred to in subsection (3), the control for releasing the device shall be readily accessible to

(a) the occupant of the seat equipped with the device; and

(b) the occupant of the designated seating position immediately behind such seat if access to the control is required in order to allow him to exit from the vehicle.

(5) The self-locking device referred to in subsection (3) shall not release or fail when

(a) in the case of a forward-facing seat, a forward longitudinal force equal to 20 times the weight of the hinged or folding portion of the seat is applied through the centre of gravity of that portion of the seat;

(b) in the case of a rearward-facing seat, a rearward longitudinal force equal to eight times the weight of the hinged or folding portion of the seat is applied through the centre of gravity of that portion of the seat; and

(c) subjected to an acceleration of 20g in the longitudinal direction opposite to that in which the seat folds.

(6) Seats not intended for occupancy while the vehicle is in motion shall bear a conspicuous label that so states in English and in French.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Seat Belt Installations

208. (1) Subject to subsections (2) to (4), every vehicle other than a bus shall

(a) be equipped

(i) at each front outboard designated seating position, with

(A) a Type 2 seat belt assembly with a non-detachable upper torso portion that meets the requirements of section 209 and subsections (8) to (11) of this section, or

(B) a Type 1 seat belt assembly that, with an anthropomorphic test device placed at that position, enables the vehicle to meet the frontal crash protection requirements of paragraph (16)(a) and subsections (8) to (11) of this section, and

(ii) at each designated seating position other than those referred to in subparagraph (i), with a Type 1 or Type 2 seat belt assembly that meets the requirements of section 209 and subsections (8) to (11) of this section; or

(b) provide

(i) at each front designated seating position, passive occupant protection to meet the frontal crash protection requirements of paragraph (16)(a), and in the case of an outboard designated seating position,

(A) passive occupant protection that meets the lateral crash protection requirements of paragraph (16)(b) and the rollover crash protection requirements of paragraph (16)(c), or

(B) a Type 1 or Type 2 seat belt assembly that meets the requirements of section 209 and subsections (5) and (8) to (11) of this section and, during a frontal impact, permits the frontal crash protection requirements of paragraph (16)(a) to be met by providing passive occupant protection and by restraining the anthropomorphic test devices placed at each designated seating position with a Type 1 or Type 2 seat belt assembly or with the pelvic portion of any Type 2 seat belt assembly that has a detachable upper torso belt, and

(ii) at each designated seating position other than those referred to in subparagraph (i), a Type 1 or Type 2 seat belt assembly that meets the requirements of section 209 and subsections (8) to (11) of this section.

(2) Subject to subsection (3), a passenger car and a truck and multipurpose passenger vehicle with a GVWR of 4 500 kg (10,000 lbs.) or less, other than a vehicle manufactured between September 1, 1981 and August 31, 1982 inclusive having a wheel base of more than 2.90 m (114 inches), a vehicle manufactured between September 1, 1982 and August 31, 1983 inclusive having a wheel base of more than 2.54 m (100 inches) and a vehicle manufactured after September 1, 1983, may

(a) be equipped at each designated seating position other than the front designated seating positions with a Type 1 or Type 2 seat belt assembly that meets the requirements of section 209 and subsections (8) to (11) of this section; and

(b) at each front designated seating position during a frontal perpendicular impact described in subparagraph (16)(a)(i) meet the frontal crash protection requirements of paragraph (16)(a) with respect to anthropomorphic test devices placed at each designated seating position by providing passive occupant protection and by restraining the anthropomorphic test devices with a Type 1 seat belt assembly.

(3) A passenger car and a truck and multipurpose passenger vehicle with a GVWR of 4 500 kg (10,000 lbs.) or less that is a convertible, an open-body type vehicle or a walk-in van type truck may be equipped at each designated seating position with a Type 1 seat belt assembly that meets the requirements of section 209 and subsections (8) to (11) of this section.

(4) A truck and multipurpose passenger vehicle with a GVWR of more than 4 500 kg (10,000 lbs.) may be equipped at each designated seating position with a Type 1 seat belt assembly that meets the requirements of section 209.

(5) A bus shall, at the driver's designated seating position,

(a) be equipped with a Type 1 or Type 2 seat belt assembly that meets the requirements of section 209; or

(b) provide passive occupant protection that meets the requirements of subsections (16) to (19) for an

anthropomorphic test device placed at that seating position.

(6) Every vehicle, except

(a) a truck and multipurpose passenger vehicle with a GVWR of 4 500 kg (10,000 lbs.) or less that is a vehicle with forward control configuration, a convertible, an open-body type vehicle, a walk-in van type truck, a motor home or a vehicle carrying chassis-mount camper,

(b) a truck and multipurpose passenger vehicle with a GVWR of more than 4 500 kg (10,000 lbs.),

(c) a bus, and

(d) a vehicle providing passive occupant protection,

shall be equipped with a warning system that is activated to emit to the driver for a period of not less than 4 seconds, an audible signal and a visible warning light when

(e) at the option of the manufacturer,

(i) the ignition switch is moved to the "on" position,

(ii) the ignition switch is moved to the "start" position, or

(iii) the vehicle's engine is operating and the transmission gear selector is in the forward position,

(f) at the option of the manufacturer, the seat belt latch mechanism of the driver's pelvic restraint is not fastened or the restraint is not extended for more than 100 mm (4 inches) from the normal stowed position, and

(g) in the case of a seat belt assembly that provides passive occupant protection to the driver, the emergency release is not secured.

(7) The visible warning light referred to in subsection (6) may be activated when the ignition switch is moved to the "on" position or the "start" position and the seat belt latch mechanism or emergency release is fastened.

(8) Subject to subsection (9), when any seat of a vehicle other than

(a) a truck or multipurpose passenger vehicle with a GVWR of 4 500 kg (10,000 lbs.) or less that is a convertible, an open-body type vehicle or a walk-in van type truck,

(b) a truck or multipurpose passenger vehicle with a GVWR of more than 4 500 kg (10,000 lbs.), or

(c) a bus,

is placed in any position and the seat back is placed in the manufacturer's nominal design riding position,

(d) the pelvic restraint of a seat belt assembly installed in the vehicle shall, subject to subparagraph (f)(ii), be capable of adjustment by means of an emergency locking retractor or automatic locking retractor referred to in section 209 to fit occupants whose dimensions range from those of a 50th percentile six year old child to those of a 95th percentile adult male,

(e) the upper torso restraint shall adjust by means of an emergency locking retractor or a manual adjusting device referred to in section 209 to fit occupants whose dimensions range from those of a 5th percentile adult female to those of a 95th percentile adult male, except that an upper torso restraint described in subparagraph (1)(a)(i) shall adjust by means of an emergency locking retractor referred to in section 209, and

(f) every seat belt assembly installed

(i) at the driver's seating position shall adjust to fit occupants whose dimensions range from those of a 5th percentile adult female to those of a 95th percentile adult male, and

(ii) at any designated seating position, other than the outboard designated seating positions of the front and second seats, shall adjust by means of

(A) a retractor referred to in paragraph (d) or (e), or

(B) a manual adjusting device referred to in section 209.

(9) Subsection (8) does not apply to the second seat of a multipurpose passenger vehicle with forward control configuration that does not have a door adjacent to the outboard designated seating position.

(10) The intersection of the upper torso restraint and the pelvic restraint of a Type 2 seat belt assembly, with any upper torso manual adjusting device adjusted in accordance with the manufacturer's instructions, shall be at least 150 mm (6 inches) from the front vertical centre line of a 50th

percentile adult male occupant when measured along the centre line of the pelvic restraint,

(a) with the seat in its rearmost and lowest adjustable position; and

(b) with the seat back in the manufacturer's nominal design riding position.

(11) Every seat belt assembly installed in a vehicle shall have a latch mechanism that

(a) has components accessible to the seated user of the seat belt in both the stowed and operational positions when he is seated;

(b) releases at a single point by a pushbutton action; and

(c) releases both the upper torso restraint and the pelvic restraint simultaneously, if the assembly has a pelvic restraint and an upper torso restraint that require unlatching for release of the occupant.

(12) A seat belt assembly that provides passive occupant protection and requires no action by the user may be used to meet the impact protection requirements set out in subsection (2) and may be used in place of any seat belt assembly required by that subsection.

(13) A vehicle that is provided with a seat belt assembly that provides passive occupant protection to the user of the assembly

(a) may have a detachable or non-detachable upper torso portion if both pelvic and upper torso restraints are provided; and

(b) shall conform to the webbing, attachment hardware and assembly performance requirements of section 209 if it is not required to meet the perpendicular frontal impact requirements of paragraph (16)(a).

(14) Every vehicle providing an occupant protection system that deploys in the event of a crash shall

(a) have a label permanently affixed to the vehicle within the passenger compartment bearing lettering in English and in French in block capitals and numerals not less than 2 mm (3/32 inch) in height

(i) stating by

(A) month and year,

(E) vehicle distance travelled, or

(C) specified time intervals measured from the month and year stated on the statement of compliance label affixed to the vehicle in accordance with section 6 of these Regulations,

the manufacturer's recommended maintenance schedule required for the maintenance of any occupant protection system that deploys in the event of a crash in order to have it remain within the requirements of this section, and

(ii) indicating the location of instructions provided with the vehicle concerning the maintenance or replacement of such system; and

(b) be provided with

(i) instructions concerning maintenance or replacement of the occupant protection system referred to in subparagraph (a)(i), contained in the vehicle owner's manual supplied with the vehicle, and

(ii) a list of the components of such system that are monitored by the readiness indicator referred to in subsection (15).

(15) Any occupant protection system that deploys in the event of a crash shall have a monitoring system equipped with a readiness indicator clearly visible to the driver, monitoring its own readiness and indicating the readiness of the occupant protection system.

(16) Subject to subsections (1) to (5) and (13), every anthropomorphic test device placed in a vehicle shall, when the vehicle is subjected to Motor Vehicle Safety Test Methods, Section 208, "Seat Belts" (February 1, 1987) be provided with the crash protection required by subsections (17) to (19) for

(a) a frontal impact, when

(i) the vehicle travelling longitudinally forward at a speed not greater than 48 km/h (30 mph) impacts a fixed collision barrier that is at any angle from 60 to 90 degrees from either side of the line of travel of the vehicle, and

(ii) an anthropomorphic test device is placed,

(A) in the case of a vehicle equipped with front bucket seats, at each front designated seating position, or

(B) in the case of a vehicle equipped with a front bench seat, at the driver's designated seating position and at any other front designated seating position;

(b) a lateral impact, when

(i) the impact is caused on either side of the vehicle by a barrier moving at 32 km/h (20 mph), and

(ii) an anthropomorphic test device is placed at the front outboard designated seating position adjacent to the impacted side of the vehicle; and

(c) a lateral rollover, when

(i) the rollover is caused by ejecting the vehicle from a platform travelling at a speed of 48 km/h (30 mph), and

(ii) an anthropomorphic test device is placed at the front outboard designated seating position on the lower side of the vehicle as mounted on the test platform.

(17) Every anthropomorphic test device referred to in paragraphs (16)(a) and (c) shall be completely contained within the outer surface of the vehicle passenger compartment throughout the test.

(18) Every anthropomorphic test device referred to in paragraphs (16)(a) and (b) shall

(a) undergo such a resultant acceleration at the centre of gravity of the head that the numerical value of the expression

$$\left[\frac{1}{t_2 - t_1} \int_{t_1}^{t_2} a \, dt \right]^{2.5} (t_2 - t_1)$$

does not exceed 1,000 where "a" is the resultant acceleration expressed as a multiple of "g" and "g" is the acceleration due to gravity, and either

(i) " t_1 " and " t_2 " are any two points in time measured in seconds during the impact, or

(ii) " t_1 " and " t_2 " are any two points in time measured in seconds during any interval when the head is in continuous contact with a part of the vehicle other than the seat belt system when the anthropomorphic test device is restrained by a seat belt system; and

(b) undergo a resultant acceleration of the centre of gravity of the upper thorax not in excess of 60 g, except for intervals in which the cumulative duration is not less than 3 milliseconds.

(19) Every anthropomorphic test device referred to in paragraph (16)(a) shall experience an axially transmitted force through each upper leg not in excess of 10 kN (2,250 lbs.).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/78-80 24 January, 1978 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1979

Section 208 of Schedule D.

SOR/80-782 2 October, 1980 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 208 of Schedule IV.

SOR/87-578 24 September, 1987 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Subsection 208(16) of Schedule IV preceding paragraph (a).

Seat Belt Assemblies

209. (1) In this section and in sections 208 and 210 of this Schedule,

- “adjustment hardware” means hardware designed for adjusting the size of a seat belt assembly to fit the user, including such hardware as may be integral with a buckle, a retractor or attachment hardware; (pièces de réglage)
- “attachment hardware” means hardware designed for securing a seat belt assembly to a vehicle; (pièces de fixation)
- “automatic-locking retractor” means a retractor incorporating adjustment hardware that has a positive self-locking mechanism that is capable when locked of withstanding restraint forces; (rétracteur autobloquant)
- “buckle” means a quick release connector that secures a person in a seat belt assembly; (attache)
- “emergency-locking retractor” means a retractor incorporating adjustment hardware that has a locking mechanism that is activated by vehicle acceleration, webbing movement in relation to the vehicle, or other automatic action during an emergency and is capable when locked of withstanding restraint forces; (rétracteur à blocage d’urgence)
- “hardware” means any metal or rigid plastic part designed to secure a person in a vehicle in conjunction with straps or webbing; (pièces)
- “load limiter” means a seat belt assembly component or seat belt assembly feature that controls tension on a seat belt to modulate the forces that are imparted to an occupant restrained by the seat belt assembly during a collision; (limiteur de charge)
- “non-locking retractor” means a retractor that does not have a locking mechanism and from which the webbing is extended to substantially its full length by a small external force and that provides no adjustment for assembly length and that need not be capable of sustaining restraint forces at maximum webbing extension; (rétracteur sans blocage)
- “pelvic restraint” means a seat belt assembly or portion thereof intended to restrain movement of the pelvis; (ceinture sous-abdominale)

- “retractor” means a device for storing part or all of the webbing in a seat belt assembly; (rétracteur)
- “seat back retainer” means the portion of a seat belt assembly designed to restrict forward movement of a seat back; (dispositif de maintien du dossier)
- “strap” means a narrow non-woven material used in place of webbing; (courroie)
- “Type 1” means, when used in relation to a seat belt assembly, a lap belt for restraining movement of the pelvis; (type 1)
- “Type 2” means, when used in relation to a seat belt assembly, a combination pelvic and upper torso restraint; (type 2)
- “Type 2A” means, when used in relation to a seat belt assembly, an upper torso restraint for use only in conjunction with a pelvic restraint to constitute a Type 2 seat belt assembly; (type 2A)
- “upper torso restraint” means a portion of a seat belt assembly intended to restrain movement of the chest and shoulder regions; (ceinture-baudrier)
- “webbing” means a narrow fabric woven with continuous filling yarns and finished selvages. (sangle)

(2) Every seat belt assembly with which a vehicle is equipped shall

- (a) be designed for use by only one person at one time; and

- (b) provide pelvic restraint designed to remain on the pelvis of the occupant under all conditions.

(3) The pelvic restraint of a Type 2 seat belt assembly that can be used without upper torso restraint shall comply with all requirements for a Type 1 seat belt assembly set out in these Regulations.

(4) Every Type 2 seat belt assembly shall provide upper torso restraint that

- (a) does not shift the pelvic restraint into the abdominal region of the occupant;

- (b) is designed to minimize vertical forces on the shoulders and spine of the occupant; and

(c) has hardware designed and located in the assembly to minimize the possibility of injury to the occupant.

(5) Every Type 2A shoulder belt shall comply with all requirements for a Type 2 seat belt assembly set out in these Regulations.

(7) The webbing of a seat belt assembly

(a) shall have its ends protected or treated to prevent ravelling;

(b) shall not, when used in a seat belt assembly having a metal buckle for size adjustment of the assembly, pull out of the adjustment hardware at maximum size adjustment;

(c) shall be capable of moving essentially unimpeded when routed between a seat back and seat cushion and attached to a retractor located behind the seat;

(d) shall be not less than 46 mm (1.8 in.) wide except for portions that do not touch a 95th percentile adult male where the seat is in any adjustment position and the seat back is in the manufacturer's nominal design riding position when measured under the conditions of Motor Vehicle Safety Test Methods, Section 209, Seat Belt Assemblies, approved on behalf of the Minister on February 27, 1984;

(e) shall have a breaking strength of not less than

(i) in the case of a Type 1 seat belt assembly, 26.7 kN (6,000 pounds), and

(ii) in the case of a Type 2 seat belt assembly, 22.2 kN (5,000 pounds) for the pelvic restraint and 17.8 kN (4,000 pounds) for the upper torso restraint,

when tested in accordance with the test methods referred to in paragraph (d);

(f) except as provided in subsection (29), shall not extend more than

(i) in the case of a Type 1 seat belt assembly, 20 per cent at 11.1 kN (2,500 lb.), and

(ii) in the case of a Type 2 seat belt assembly, 30 per cent at 11.1 kN (2,500 lb.) for the pelvic restraint and 40 per cent at 11.1 kN (2,500 lb.) for the upper torso restraint,

when tested in accordance with the test methods referred to in paragraph (d);

(g) shall, when subjected to abrasion in accordance with the test methods referred to in paragraph (d), have a breaking strength of not less than 75 per cent of the breaking strength specified in paragraph (e) for that type of belt assembly;

(h) shall, when exposed to the light of a carbon arc and tested in accordance with the test methods referred to in paragraph (d), have

(i) a breaking strength of not less than 60 per cent of its strength before exposure to the light, and

(ii) a colour retention not less than No. 2 on the Geometric Gray Scale published by the American Association of Textile Chemists and Colorists;

(i) shall, unless the webbing is made from material inherently resistant to micro-organisms, when subjected to micro-organisms and tested in accordance with the test methods referred to in paragraph (d) have a breaking strength of not less than 85 per cent of its strength before subjection to micro-organisms;

(j) shall not transfer colour to a crock cloth, either wet or dry, to a greater degree than Rating 3 on the AATCC Chromatic Transference Scale, developed by the American Association of Textile Chemists and Colorists in 1972, when the webbing is tested in accordance with the test methods referred to in paragraph (d); and

(k) shall not stain to a greater degree than Rating 2 on the AATCC Chromatic Transference Scale, developed by the American Association of Textile Chemists and Colorists in 1972, when tested in accordance with the test methods referred to in paragraph (d).

(8) Every strap used in a seat belt assembly to sustain restraint forces shall comply with the requirements for webbing in subsection (7) and, if the strap is made from a rigid material, it shall comply with all applicable requirements of this section.

(9) All hardware parts of a seat belt assembly that, under normal use, make contact with any person, clothing or webbing shall not have any burrs or sharp edges.

(10) Subject to subsection (11), every seat belt assembly shall include all hardware necessary for installation in a

motor vehicle in accordance with SAE Recommended Practice J800c, "Motor Vehicle Seat Belt Installations", November 1973, which hardware shall be designed to prevent attachment bolts and other parts from becoming disengaged from the vehicle while in service.

(10.1) Reinforcing plates or washers furnished for universal floor installation of seat belt assemblies in motor vehicles shall

(a) be made of steel, free from burrs and sharp edges on the peripheral edges adjacent to the vehicle;

(b) be at least 1.5 mm (0.06 in.) in thickness and at least 2580 mm² (4 in.²) in projected area;

(c) have at least a 15 mm (0.6 in.) distance between any edge of the plate and the edge of the bolt hole;

(d) have all corners rounded to a radius of not less than 6 mm (0.25 in.) or cut so that no corner angle is less than 135°; and

(e) have no side less than 6 mm (0.25 in.) in length.

(11) Seat belt assemblies designed for installation in motor vehicles equipped with seat belt anchorages that do not require anchorage nuts, plates or washers need not have the hardware described in subsection (10), but shall have 7/16-20 UNF-2A or 1/2-13 UNC-2A attachment bolts or equivalent hardware.

(12) Attachment hardware of a seat belt assembly, except attachment hardware made of corrosion resistant steel containing a minimum of 11.5 per cent chromium,

(a) shall not, after being tested in accordance with the test methods referred to in paragraph (7)(d), have significant ferrous corrosion on any surface other than surfaces at peripheral edges or edges of holes in underfloor reinforcing plates and washers; or

(b) shall be protected by a coating at least as effective as

(i) in the case of attachment hardware at or near the floor, an electro-deposited coating of nickel plus chromium, or copper plus nickel plus chromium, with a service condition number of at least SC2 determined in accordance with ASTM B456-79, "Standard Specification for Electro-deposited Coatings of Copper plus Nickel plus Chromium and Nickel plus Chromium", and

(ii) in the case of attachment hardware other than that specified in subparagraph (i), an electro-deposited coating of nickel plus chromium, or copper plus nickel plus chromium, with a service condition number of SCl determined in accordance with the ASTM standard referred to in subparagraph (i), which coating is not applied when the hardware is racked for electro-plating in locations subject to maximum stresses.

(13) When tested in accordance with applicable subsections of the test methods referred to in paragraph (7)(d)

(a) eye bolts, shoulder bolts or other bolts used to secure the pelvic restraint of a seat belt assembly to a vehicle shall withstand a force of 40 kN (9,000 pounds), except that such bolts need not withstand a force of more than 22.2 kN (5,000 pounds) if they are installed in such a manner that only one end of a seat belt assembly can be attached thereto;

(b) attachment hardware, other than bolts, designed to receive the ends of two seat belts assemblies shall withstand a tensile force not less than 26.7 kN (6,000 pounds) without fracture of any section; and

(c) a seat belt assembly having single attachment hooks of the quick-disconnect type for connecting webbing to an eye bolt shall be provided with a retaining latch or keeper which shall not move more than 2 mm (0.08 inch) in either the vertical or horizontal direction.

(14) The release mechanism of a seat belt assembly

(a) shall be a buckle or buckles readily accessible to the occupant to permit his easy and rapid removal from the assembly;

(b) shall be designed to minimize the possibility of accidental release; and

(c) if the assembly has a buckle with a release mechanism in the latched position, shall have only one opening in which the tongue can be inserted on the end of the buckle designed to receive and latch the tongue.

(15) Every Type 1 or Type 2 seat belt assembly shall, irrespective of seat adjustment position and with the seat back in the manufacturer's nominal design driving position,

(a) be capable of adjustment to fit occupants whose dimensions and mass range from those of a 5th percentile adult female to those of a 95th percentile adult male; and

(b) have

(i) an automatic-locking retractor,

(ii) an emergency-locking retractor, or

(iii) an adjusting device that is within the reach of the occupant.

(17) Surfaces of buckles, retractors and metallic parts, other than attachment hardware, of a seat belt assembly shall not, after subsection to the corrosion conditioning specified in the test methods referred to in paragraph (7)(d), have any ferrous or non-ferrous corrosion which may be transferred, either directly or by means of the webbing, to the occupant or his clothing when the assembly is worn.

(18) Every buckle that is subjected to the conditions in subsection (17) shall meet the applicable requirements of subsections (20), (21) and (22).

(19) Plastic or other non-metallic hardware parts of a seat belt assembly shall not, when subjected to the temperature conditioning specified in the test methods referred to in paragraph (7)(d), warp or otherwise deteriorate in such a manner as to cause the assembly to operate improperly or fail to comply with applicable requirements of this section.

(20) Every buckle of a seat belt assembly

(a) shall release when a force of not more than 133 N (30 lb.) is applied as specified in the test methods referred to in paragraph (7)(d);

(b) shall not release under a compressive force of 1 780 N (400 lb.) applied as specified in the test methods referred to in paragraph (7)(d), but shall be operable and able to meet the applicable requirements of subsections (27) and (28) after the compressive force is removed;

(c) that is actuated

(i) by a push button shall have a minimum push button area of 450 mm² (0.7 in.²) with a minimum linear dimension of 10 mm (0.4 in.) for applying the release force,

(ii) by a lever shall permit the insertion of a cylinder 10 mm (0.4 in.) in diameter and 38 mm (1.5 in.) in length to at least the midpoint of the cylinder along

its length in the actuation portion of the buckle release, and

(iii) by other means shall have adequate access for two or more fingers to actuate release; and

(d) having tilt lock adjustment shall lock the webbing at an angle of not less than 30° between the base of the buckle and the anchor webbing when tested in accordance with the test methods referred to in paragraph (7)(d).

(21) The force required to decrease the size of a seat belt assembly shall not exceed 49 N (11 pounds) when measured in accordance with the test methods referred to in paragraph (7)(d).

(22) The buckle latch of a seat belt assembly, when tested in accordance with the test methods referred to in paragraph (7)(d), shall not fail, gall or wear to an extent that normal latching and unlatching is impaired and, if metal to metal, shall release when in any position of partial engagement and subjected to a force of not more than 22 N (5 lb.).

(23) A non-locking retractor with which a seat belt assembly is equipped shall

(a) allow the webbing of that seat belt assembly to extend within 6 mm (0.25 inch) of maximum length when a tension is applied, as specified in the test methods referred to in paragraph (7)(d); and

(b) when on an upper-torso restraint,

(i) be attached to the non-adjustable end of the assembly,

(ii) have the reel easily visible to an occupant while wearing the assembly, and

(iii) have a maximum retraction force of not more than 4.9 N (1.1 pounds) in any strap or webbing that makes contact with the shoulder of an occupant when measured in accordance with the test methods referred to in paragraph (7)(d), unless the retractor is attached to the free end of the webbing which is not subjected to any tension during restraint of an occupant by the assembly.

(24) An automatic-locking retractor with which a seat belt assembly is equipped, when tested in accordance with the test methods referred to in paragraph (7)(d),

(a) shall not allow the webbing of that seat belt assembly to move more than 25 mm (1 inch) between locking positions of the retractor;

(b) shall have a retraction force under zero acceleration of not less than 2.6 N (0.6 pound) when attached to a pelvic restraint and not less than 2 N (0.45 pound) or more than 4.9 N (1.1 pounds) in any strap or webbing that makes contact with the shoulder of an occupant when the retractor is attached to an upper torso restraint; and

(c) shall not, when attached to an upper torso restraint, increase the restraint on the occupant of the seat belt assembly during use in a vehicle travelling over rough roads.

(25) An emergency-locking retractor of a Type 1 or Type 2 seat belt assembly, when tested in accordance with the test methods referred to in paragraph (7)(d),

(a) shall lock before the webbing extends 25 mm (1 inch) when the retractor is subjected to an acceleration of 0.7 times the acceleration due to gravity;

(b) shall not lock,

(i) if the retractor is sensitive to webbing withdrawal, before the webbing extends 50 mm (2 inches) when the retractor is subjected to an acceleration of not more than 0.3 times the acceleration due to gravity, and

(ii) if the retractor is sensitive to vehicle acceleration, when the retractor is rotated in any direction to any angle of 15 degrees or less from its orientation in the vehicle; and

(c) shall exert a retractive force of

(i) at least 2.6 N (0.6 pound) under zero acceleration when attached only to a pelvic restraint,

(ii) not less than 0.9 N (0.2 pound) or more than 4.9 N (1.1 pounds) under zero acceleration when attached only to an upper torso restraint, and

(iii) not less than 0.9 N (0.2 pound) or more than 6.7 N (1.5 pounds) under zero acceleration when attached to a strap or webbing that restrains both the upper torso and the pelvis.

(26) A retractor used on a seat belt after subsection to the cycling procedure specified in the test methods referred

to in paragraph (7)(d) shall meet the applicable requirements of subsections (23), (24), (25), (27) and (28), except that the retraction force shall not be less than 50 per cent of its original retraction force.

(27) Except as provided in subsection (29), the components of every Type 1 seat belt assembly, including webbing, straps, buckles, adjustment hardware, attachment hardware and retractors, when tested in accordance with the test methods referred to in paragraph (7)(d), shall meet the following requirements:

(a) each structural component of the seat belt assembly shall withstand a force of not less than 11.1 kN (2,500 pounds);

(b) the length of the seat belt assembly loop between anchorages shall increase by not more than 360 mm (14 inches) when subjected to a force of 22.2 kN (5,000 pounds);

(c) webbing cut by the hardware during the test shall have a breaking strength, at the cut, of not less than 18.7 kN (4,200 pounds); and

(d) there shall be no complete fracture through any solid section of metal attachment hardware during the test.

(28) Except as provided in subsection (29), the components of every Type 2 seat belt assembly, including webbing, straps, buckles, adjustment hardware, attachment hardware and retractors, when tested in accordance with the test methods referred to in paragraph (7)(d), shall meet the following requirements:

(a) the structural components in the pelvic restraint shall withstand a force of not less than 11.1 kN (2,500 pounds);

(b) the length of the pelvic restraint between anchorages shall increase by not more than 500 mm (20 inches) when subjected to a force of 11.1 kN (2,500 pounds);

(c) the structural components in the upper torso restraint shall withstand a force of not less than 6 670 N (1,500 pounds);

(d) the length of the upper torso restraint between the anchorages shall increase by not more than 500 mm (20 inches) when subjected to a force of 6 670 N (1,500 pounds);

(e) the structural components in the assembly that are common to both pelvic and upper torso restraint shall withstand a force of not less than 13.3 kN (3,000 pounds);

(f) webbing cut by the hardware during the test shall have a breaking strength of not less than

(i) 15.6 kN (3,500 pounds) at a cut in the webbing of the pelvic restraint, or

(ii) 12.5 kN (2,800 pounds) at a cut in the webbing of the upper torso restraint; and

(g) there shall be no complete fracture through any solid section of metal attachment hardware during the test.

(29) A Type 1 or Type 2 seat belt assembly that includes a load-limiter

(a) is not required to comply with the elongation requirements of paragraph (7)(f), (27)(b), (28)(b) or (28)(d); and

(b) where the seat belt assembly does not comply with the elongation requirements of paragraph (7)(f), (27)(b), (28)(b) or (28)(d), shall

(i) not be installed in a motor vehicle except in conjunction with an automatic restraint system, as part of a total occupant restraint system, and

(ii) in addition to the marking requirements specified in subsection (30), be permanently and legibly marked or labelled with the following words, namely,

“This seat belt assembly may be installed in a vehicle only in combination with an automatic restraint system such as an air cushion or an automatic belt.”

(30) Every seat belt assembly shall be permanently and legibly marked or labelled with

(a) the year of manufacture;

(b) the name or trademark of the manufacturer, distributor, or importer; and

(c) the model identification.

(31) For the purpose of paragraph (30)(c), a model shall consist of a single combination of webbing having a specific

type of fibre weave and construction, and hardware having a specific design although various colours may be included in the same model.

(32) Every vehicle equipped with a seat belt assembly shall be provided with

(a) written instructions regarding

(i) the proper use of the assembly, stressing the importance of wearing the assembly snugly and properly located on the body,

(ii) the maintenance of the assembly and periodic inspection of all components, and

(iii) the proper manner of threading the webbing in the hardware of seat belt assemblies in which the webbing is not permanently fastened;

(b) in the case of a non-locking retractor, a caution that the webbing must be fully extended from the retractor during use of the seat belt assembly unless the retractor is attached to the free end of the webbing that is not subjected to any tension during restraint of an occupant by the assembly; and

(c) in the case of a Type 2A assembly, a warning that the shoulder belt is not to be used without a lap belt.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/78-910 1 December, 1978 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsections 209(2) to (4) of Schedule IV.

SOR/87-154 19 March, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

The definition "Type 3" in subsection 209(1) of Schedule IV is revoked; subsection 209(1) of Schedule IV by adding the definition "load limiter"; subsection 209(4) of Schedule IV preceding paragraph (a); subsection 209(6) of Schedule IV is revoked; paragraph 209(7)(d) of Schedule IV; paragraph 209(7)(e) of Schedule IV by adding the word "and" at the end of subparagraph (i), by deleting the word "and" at the end of subparagraph (ii), and by revoking subparagraph (iii); paragraph 209(7)(f) of Schedule IV; paragraphs 209(7)(j) and (k) of Schedule IV; section 209 of Schedule IV by adding subsection (10.1); paragraph 209(12)(b) of Schedule IV; subsection 209(14) of Schedule IV; subsection 209(16) of Schedule IV is revoked; subsection 209(20) of Schedule IV; subsection 209(22) of Schedule IV; subsection 209(26) of Schedule IV; subsection 209(27) of Schedule IV preceding paragraph (a); subsection 209(28) of Schedule IV preceding paragraph (a); and subsection 209(29) of Schedule IV.

Seat Belt Assembly Anchorages

210. (1) In this section,

'anchorage' means the provision for transferring seat belt assembly loads to the vehicle structure;

'convertible' means a passenger car having a top or roof that can be installed, erected, folded, retracted, dismantled or removed at the convenience of the user, but excludes an open-body type vehicle;

'fore' means the direction in which the occupant of a seat faces when seated normally in such seat.

(2) Subject to subsection (3), anchorages for a Type 1 or Type 2 seat belt assembly shall be installed in a vehicle for each designated seating position except in the case of a passenger seat in a bus.

(3) Anchorages for a Type 2 seat belt assembly shall be installed in a passenger car other than a convertible for each forward-facing outboard designated seating position, and in vehicles other than passenger cars for each designated seating position for which a Type 2 seat belt assembly is required by section 208 of this Schedule.

(4) Except in the case of side-facing seats, the anchorage for a Type 1 seat belt assembly or the pelvic portion of a Type 2 seat belt assembly shall withstand a 5,000 pound force when tested in accordance with subsection (13).

(5) The anchorage for a Type 2 seat belt assembly shall withstand simultaneous 3,000-pound forces when tested in accordance with subsection (14).

(6) Permanent deformation or rupture of an anchorage or its surrounding structure shall not be considered a failure to comply with subsections (4) and (5) if the required force is maintained for 10 seconds.

(7) Except in the case of common anchorages for forward-facing and rearward-facing seats, floor-mounted anchorages for adjacent designated seating positions shall be tested by simultaneously loading the seat belt assemblies attached to such anchorages.

(8) In the case of a seat belt assembly in which the seat belt does not bear upon the seat frame, a line from

(a) the seating reference point in the case of a non-adjusting seat, or

(b) a point 2.50 inches to the fore of and 0.375 inch above the seating reference point in the case of an adjustable seat in its rearmost position,

to the nearest contact point of the belt with the anchorage shall extend to the fore from that contact point at an angle with the horizontal of not less than 20 degrees and not more than 75 degrees.

(9) In the case of a seat belt assembly in which the belt bears upon the seat frame, an anchorage not on the seat structure shall be aft of the rearmost contact point of the belt on the seat frame with the seat in its rearmost position, and the line from the seating reference point to the nearest contact point of the belt with the seat frame shall extend to the fore from that contact point at an angle with the horizontal of not less than 20 degrees and not more than 75 degrees.

(10) In the case of a seat belt assembly in which the seat belt anchorage is on the seat structure, the line from the seating reference point to the nearest contact point of the belt with the anchorage shall extend to the fore from that contact point at angle with the horizontal of not less than 20 degrees and not more than 75 degrees.

(11) Anchorages for an individual seat belt assembly shall be located at least 6.50 inches apart laterally as measured between the vertical centrelines of the bolt holes.

(12) The seat belt anchorages for the upper end of an upper torso restraint shall be located within the acceptable range shown in Figure 4 Upper Torso Restraint contained in SAE Standard J787b (September 1966), with reference to a two dimensional manikin described in SAE Standard J826, (November 1962), the H-point of which is at the seating reference point and the torso line of which is at the same angle from the vertical as the seat back with the seat in its full rearward and downward position and the seat back in the manufacturer's nominal design upright position.

(13) A force of 5,000 pounds shall be applied and maintained for 10 seconds in the direction in which the seat faces and with the seat in its rearmost position to a pelvic body block restrained by a Type 1 or the pelvic portion of a Type 2 seat belt assembly, as applicable, in a plane parallel to the longitudinal centreline of the vehicle at an initial force application angle of not less than 5 degrees and not more than 15 degrees above the horizontal and at an onset rate of not more than 50,000 pounds per second so as to attain the 5,000-pound force in not more than 30 seconds.

(14) Forces of 3,000 pounds shall be applied simultaneously and maintained for 10 seconds in the direction in which the seat faces and with the seat in its rearmost position to pelvic and upper torso body blocks restrained by a Type 2 seat belt assembly in a plane parallel to the longitudinal centreline of the vehicle at an initial force application angle of not less than 5 degrees and not more than 15 degrees above the horizontal and at an onset rate of not more than 30,000 pounds per second so as to attain the 3,000-pound force in not more than 30 seconds.

(15) The pelvic body block referred to in subsections (13) and (14) shall conform to the dimensions set out in Figure 7 Typical Body Block For Lap Belt Anchorage contained in SAE Standard J787b, (September 1966).

(16) The upper torso body block referred to in subsection (14) shall conform to the dimensions set out in Figure 6 Typical Body Block For Combination Shoulder And Lap Belt Anchorage contained in SAE Standard J787b, (September 1966).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Tether Anchorages for Child Restraints

210.1 (1) In this section,

“tether anchorage” means a device for transferring loads from the tether anchorage hardware to the vehicle structure; (ancrage d'attache)

“tether anchorage hardware” means a device for transferring tether strap loads to a tether anchorage. (accessoire d'ancrage d'attache)

(2) Except as provided in subsection (3), each tether anchorage shall consist of

(a) a hole that

(i) is located in the vehicle at an appropriate place, taking into account its purpose and the requirements of subsection (8),

(ii) has sufficient clearance to accept an M8 bolt 30 mm long,

(iii) is sealed to prevent the entry of exhaust fumes, and

(iv) where the hole is so located that access to both ends of any bolt that is inserted in it is not possible with regular wrenches or sockets or without the removal of a structural component of the vehicle body, shall be a threaded hole capable of accepting an M8 bolt 30 mm long; or

(b) a device that combines the functions of a tether anchorage and tether anchorage hardware and that

(i) is located in the vehicle at an appropriate place, taking into account its purpose and the requirements of subsection (8), and

(ii) is sealed to prevent the entry of exhaust fumes.

(3) Where a bolt is provided in a tether anchorage, a bolt having a thread size and length different from the thread size and length of the bolt described in subsection (2) may be substituted for the bolt described in that subsection, if the strength of the substituted bolt is at least equivalent to that of an M8 bolt 30 mm long.

(4) Tether anchorage hardware shall be designed to accept the tether belt hook described in subsection 213(11)⁴.

(5) Subject to subsection (14), each forward facing designated seating position in any row of such positions selected by the manufacturer, other than the first row of a passenger car that has two or more rows of designated seating positions, shall be furnished with a tether anchorage.

(6) Subject to subsection (14), each designated seating position, other than that of the driver, in a passenger car that has only one row of designated seating positions shall be furnished with a tether anchorage.

(7) Tether anchorage hardware shall

(a) be installed in the tether anchorage for

(i) the centre seating position of a passenger car that has three designated seating positions in the row for which tether anchorages are furnished, or

(ii) the right-hand seating position of a passenger car that has two designated seating positions in the row for which tether anchorages are furnished or that has only one row of forward facing seats; or

(b) be provided with the passenger car.

(8) The centre line of each tether anchorage and each tether anchorage hardware shall be located within the shaded area shown in Figures 1 and 2, as the shaded area is indicated in those Figures in relation to the shoulder reference point of the two-dimensional manikin described in SAE Standard J826 JAN80, with

(a) the manikin positioned in the vertical longitudinal plane that contains the seating reference point when the seat and seat back are in the design position;

(b) the manikin's "H" point at the seating reference point; and

(c) the manikin's torso line at the same angle from the vertical as the seat back.

(9) Where only one designated seating position in a row of designated seating positions is furnished with a tether anchorage, the tether anchorage and the tether anchorage hardware that is provided shall, when the tether anchorage hardware is installed, together withstand the application of a force of 5 300 N (1,190 pounds).

(10) Where more than one tether anchorage is furnished for a row of designated seating positions, each tether anchorage, with any provided tether anchorage hardware in place at any tether anchorage location shall withstand the application of a force of 5 300 N (1,190 pounds) when that force is applied simultaneously to each tether anchorage and each assembly of tether anchorage and tether anchorage hardware in that row of designated seating positions.

(11) The force referred to in subsections (9) and (10) shall be

(a) attained within 30 seconds, with an onset force rate not exceeding 135 000 N (29,700 pounds) per second; and

(b) maintained at the 5 300 N (1,190 pounds) level for a minimum of one second.

(12) The force referred to in subsections (9) and (10) shall be applied by means of a belt strap that is

(a) of sufficient length to extend not less than 250 mm (10 inches) forward from the vertical plane touching the rear top edge of the vehicle seat back;

(b) fitted at one end with suitable hardware for applying the force and at the other end with a bracket for attachment to the tether anchorage or tether anchorage hardware, as the case may be; and

(c) positioned over the top of the vehicle seat back as shown in Figure 3.

(13) The force referred to in subsections (9) and (10) shall be applied

(a) in a forward direction parallel to the vehicle's longitudinal vertical plane; and

(b) initially, along a horizontal line or along any line below that line that is at an angle thereto of not more than 20°.

(14) This section does not apply to any convertible.

NOTES :

1. All dimensions in mm.
2. Tether anchorage to be located within shaded area.

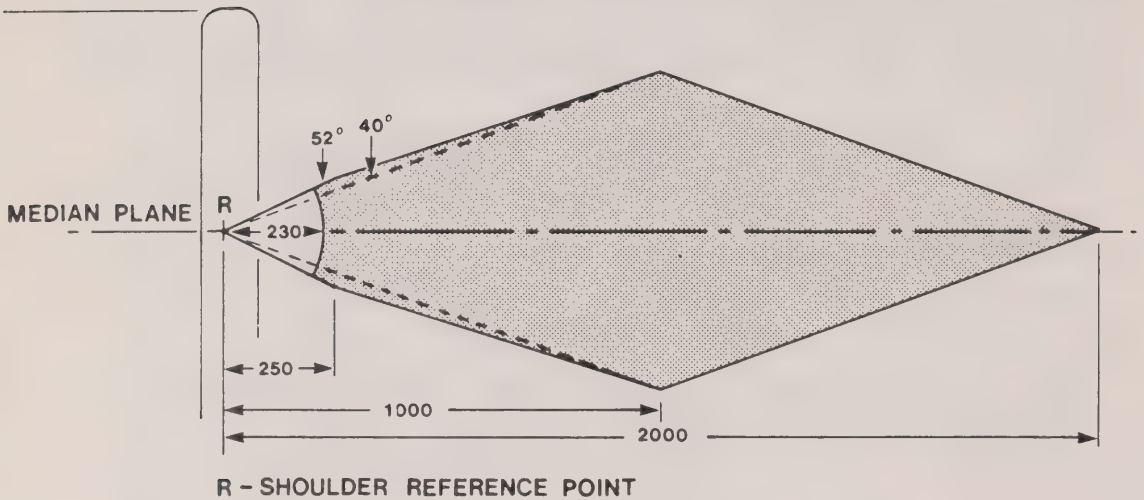
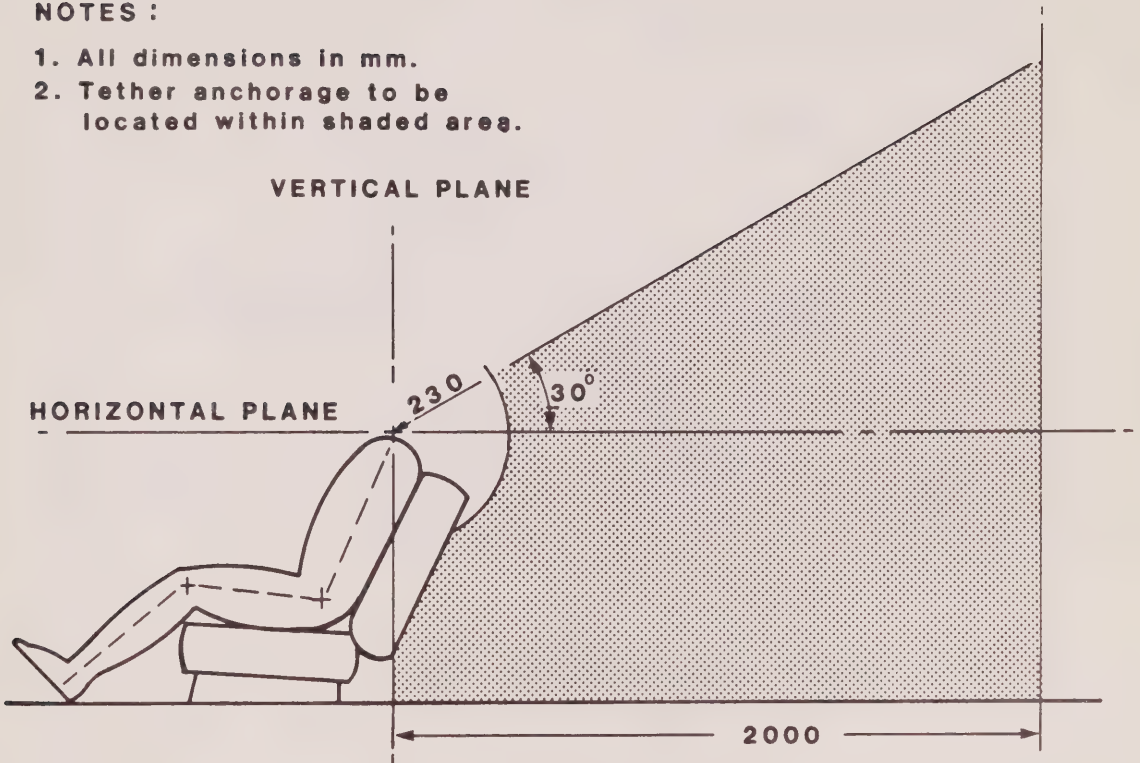


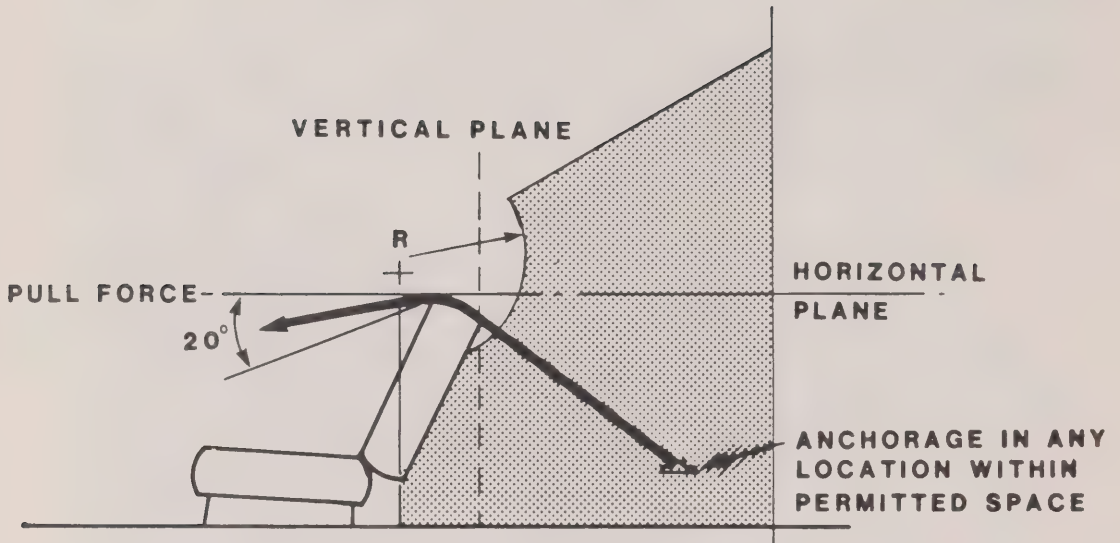
FIGURE 1 - PLAN VIEW (R POINT LEVEL) TETHER ANCHORAGE LOCATION

NOTES :

1. All dimensions in mm.
2. Tether anchorage to be located within shaded area.



**FIGURE 2 - SIDE VIEW
TETHER ANCHORAGE LOCATION**



**FIGURE 3 - SIDE VIEW
TETHER ANCHORAGE TEST**

Established by

SOR/86-975 11 September, 1986 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act, effective January 1, 1989.

Wheel Nuts, Hub Caps and Wheel Discs

211. Wheel nuts, hub caps and wheel discs used on a vehicle shall not incorporate non-functional projections that constitute a hazard to pedestrians or cyclists.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Windshield Mounting

212. (1) This section does not apply to

(a) any vehicle with a GVWR in excess of 4 500 kg (10,000 lbs.); or

(b) forward control configuration vehicles, walk-in vantype trucks or open-body type vehicles with fold down or removable windshields.

(2) When a vehicle, prepared and loaded in accordance with subsections (5) to (7), travelling longitudinally forward at any speed up to and including 48 km/h (30 mph), impacts a fixed collision barrier perpendicular to the line of travel of the vehicle, the windshield mounting of the vehicle shall, when tested in accordance with subsection (8), retain not less than the minimum portion of the windshield periphery specified in subsection (3) or (4), whichever is applicable.

(3) A vehicle equipped with passive restraint systems that meet the requirements of section 208 of these Regulations shall retain not less than 50 per cent of the windshield periphery on each side of the vehicle longitudinal centre line.

(4) A vehicle not equipped with passive restraint systems that meet the requirements of section 208 of these Regulations shall retain not less than 75 per cent of the windshield periphery.

(5) A passenger car shall be loaded to its unloaded vehicle mass, which shall include the test devices and instrumentation mass, except for the fuel system, which shall be filled as specified in subsection (6) and, in addition, the vehicle shall have

(a) the vehicle cargo and luggage capacity mass secured in the luggage area; and

(b) the appropriate number of anthropomorphic test devices, as specified in paragraph (7)(a), restrained only by means that are installed in the vehicle for protection at their seating positions.

(5.1) A multi-purpose passenger vehicle, truck or bus, with the test devices and instrumentation included in its unloaded vehicle mass and the fuel tank filled as specified in subsection (6), shall be loaded to its unloaded vehicle mass or 2 500 kg (5,500 lbs), whichever is the lesser, except that the mass shall not include the mass of any work-performing accessories but the following shall be added to the load

(a) the vehicle rated cargo and luggage capacity mass or 140 kg (300 lbs), whichever is the lesser, secured to the vehicle and distributed so that the mass on each axle as measured at the tire-ground interface is in proportion to its GAWR, except that if the mass on any axle when the vehicle is loaded to its unloaded vehicle mass plus the anthropomorphic test device mass exceeds the axle's proportional share of the test mass, the remaining mass shall be placed so that the mass on that axle remains the same; and

(b) the appropriate number of anthropomorphic test devices, as specified in paragraph (7)(a), restrained only by means that are installed in the vehicle for protection at their seating positions.

(6) The fuel tank of a vehicle referred to in subsection (5) shall be filled to any level from 90 to 95 per cent of capacity with Stoddard solvent, having the physical and chemical properties of type 1 solvent, Table 1 American Society for Testing and Materials Standard D484-71, 'Standard Specifications for Hydrocarbon Dry Cleaning Solvents'.

(7) For the purposes of subsection (2),

(a) a 50th percentile adult male anthropomorphic test device shall be provided at each front outboard seating position and at any other seating position whose protection system is required to be tested using an anthropomorphic test device under the frontal impact protection provision of section 208;

(b) the parking brake shall be disengaged and the transmission shall be in neutral; and

(c) the tires shall be inflated to the manufacturer's specifications.

(8) For the purposes of subsection (2), the test shall be conducted on the windshield mounting material and all vehicle components in direct contact with the mounting material at any temperature between -9°C (15°F) and 43°C (110°F).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-282 21 April, 1980 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1980

Section 212 of Schedule IV.

SOR/82-274 26 February, 1982 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Subsection 212(5) of Schedule IV; and paragraph 212(7)(a) of
Schedule IV.

Child Restraint Systems

213. (1) Every child restraint system shall be tested in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982) and shall, when adjusted in any position that the manufacturer has not, in accordance with subsection (16), specifically warned against using in motor vehicles,

(a) exhibit no complete separation of any load bearing structural element and no partial separation exposing either surfaces with a radius of less than 6.4 mm (1/4 inch) or surfaces with protrusions greater than 9.5 mm (3/8 inch) above the immediate adjacent surrounding contactable surface of any structural element of the system;

(b) if the system is adjustable to different positions, remain in the same adjustment position during the testing as it was in immediately before the testing began;

(c) limit the resultant acceleration at the location of the accelerometer mounted in the anthropomorphic test device upper thorax to not more than 60 g's, except for intervals the cumulative duration of which is not more than 3 milliseconds;

(d) not allow any portion of the anthropomorphic test device head to pass through the vertical transverse plane that is 720 mm (28.4 inches) forward of point Z on the standard seat assembly measured along the centre SORL (See Figs. 1 and 2);

(e) in the case of each rear-facing child restraint system, retain all portions of the anthropomorphic test device torso within the system and no portion of the target point on either side of the device's head shall pass through the transverse orthogonal planes whose intersection contains the forward-most and top-most points on the child restraint system surfaces (See Fig. 3);

(f) subject to subsection (2), provide restraint against rearward movement of the head of the child relative to the child by means of a continuous seat back that is an integral part of the system and that

(i) has a height, measured along the system seat back surface for the child in the vertical longitudinal plane passing through the longitudinal centerline of the child restraint system from the lowest point on the system seating surface that is contacted by the buttocks of the

seated anthropomorphic test device of at least 500 mm (20 inches), and

(ii) has a width of at least 150 mm (5.9 inches) in the horizontal plane at the height specified in subparagraph (i); and

(g) be constructed of only materials that conform to the requirements of section 302.

(2) A front facing child restraint system is not required to conform to the requirements of paragraph (1)(f) if the target point on either side of the head of the anthropomorphic test device is below a horizontal plane tangent to the top of the standard seat assembly when the anthropomorphic test device is positioned in the system and the system is installed on the seat assembly.

(3) The seat used in the impact simulation shall be the dynamic seat assembly described in drawing package NHTSA-SAS-100-1000 (see Fig. 1), except that the back of the seat shall be fixed so that rotation about the seat back pivot axis is prevented.

(4) Where a child restraint system provides surfaces for the support of the child's back or the sides of the child's torso, the child restraint system shall

(a) provide a surface for the support of the child's back which is flat or concave and has a continuous surface area of not less than 54 800 mm² (85 square inches); and

(b) provide surfaces for the support of each side of the child's torso that are flat or concave and have a continuous area of not less than 30 500 mm² (48 square inches) for each surface.

(5) Except for surfaces designed to restrain a child, no child restraint system shall have a fixed or movable surface directly in front of the child.

(6) Each horizontal cross section of each system surface designed to restrain forward movement of the child shall be flat or concave and each vertical longitudinal cross section shall be flat or convex with a radius of curvature of the underlying structure of not less than 50 mm (2 inches).

(7) Any portion of a rigid structural component within or underlying a contactable surface of a child restraint system shall, with any padding or flexible overlay material removed, have a height above any immediately adjacent restraint system surface of not more than 9.5 mm (3/8 inch)

and no exposed edge of the component shall have a radius of less than 6.4 mm (1/4 inch).

(8) Each child restraint system surface that is contactable by the anthropomorphic test device head when it is installed in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982) shall be covered with slow recovery energy absorbing material and shall have

(a) a 25 per cent compression-deflection resistance of not less than 4 kPa (0.5 pounds per square inch) and not more than 70 kPa (10 pounds per square inch) when tested in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982);

(b) a thickness of not less than 12 mm (1/2 inch) if the material has a 25 per cent compression-deflection resistance of not less than 12 kPa (1.8 pounds per square inch) and not more than 70 kPa (10 pounds per square inch) when tested in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982); and

(c) a thickness of not less than 19 mm (3/4 inch) if the material has a 25 per cent compression-deflection resistance of less than 12 kPa (1.8 pounds per square inch) and not less than 4 kPa (0.5 pounds per square inch) when tested in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982).

(9) Every forward-facing child restraint system shall be capable of being restrained against forward movement solely by means of a Type 1 or Type 2 seat belt assembly or by means of a Type 1 or Type 2 seat belt assembly together with one additional tether strap that is supplied with the system and conforms to subsection (10).

(10) The webbing of belts provided with a child restraint system and used to attach the system to the vehicle or to restrain the child within the system shall

(a) after being subjected to abrasion as specified in Motor Vehicle Safety Test Methods, Section 209, "Seat Belt Assemblies" (June 1, 1978) have a breaking strength of not less than 75 per cent of the strength of the unabraded webbing;

(b) meet the requirements of paragraphs 209(7)(h) to (k); and

(c) if contactable by an anthropomorphic test device torso when the system is tested dynamically, have a width of not less than 38 mm (1 1/2 inches) when measured as specified in Motor Vehicle Safety Test Methods, Section 209, "Seat Belt Assemblies" (June 1, 1978).

(11) Where a tether strap is used to attach the child restraint system to the vehicle, it shall be fitted with any tether belt hook whose anchorage hardware attachment dimensions conform to those illustrated in Figure 4.

(12) Every belt buckle and item of belt adjustment hardware used in a child restraint system shall conform to the requirements of subsections 209(12), (17) and (19).

(13) Any buckle in a child restraint system belt assembly designed to restrain the child shall not release when a force of less than 35 N (8 pounds) is applied before dynamic testing and shall release when a force of not more than 70 N (16 pounds) is applied after dynamic testing in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982).

(14) Every belt that is part of a child restraint system and that is designed to restrain a child using the system shall

(a) be adjustable to snugly fit any child whose height and weight are within the ranges recommended in accordance with paragraph (16)(e) and who is positioned in the system in accordance with the instructions required by subsection (18); and

(b) when tested in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982) impose no loads on the child that result from the mass of the system or the mass of the seat back of the standard seat assembly.

(15) Every child restraint system shall, with the anthropomorphic test device positioned in the system in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child Restraint Systems", (December 1, 1982) provide

(a) upper torso restraint in the form of

(i) belts passing over each shoulder of the anthropomorphic test device,

(ii) a fixed or movable surface that complies with subsection (6), or

(iii) if a rearward facing system, a single diagonal belt passing over one shoulder or belts passing over each shoulder of the anthropomorphic test device;

(b) lower torso restraint in the form of

(i) a lap belt assembly making an angle between 45° and 90° with the child restraint seating surface at the lap belt attachment points, or

(ii) a fixed or movable surface that complies with subsection (6); and

(c) if a forward facing system, crotch restraint in the form of

(i) a crotch belt connectable to the lap belt or other device used to restrain the lower torso, or

(ii) a fixed or movable surface that complies with subsection (6).

(16) Every child restraint system shall have indelibly printed on it, or otherwise permanently affixed to it, in English and in French, in a prominent location in letters and numerals not less than 10 point,

(a) the name and principal place of business of the person by whom or for whom the child restraint system is made;

(b) the model name or number of the system;

(c) the month and year of manufacture of the system;

(d) a statement indicating that the restraint system conforms to Canada Motor Vehicle Safety Standard, Section 213;

(e) a statement indicating that the system is

(i) for use by children within a range of weights and heights recommended by the manufacturer, or

(ii) a dual-purpose seat for use as a rear-facing seat for children up to a weight and height recommended by the manufacturer and as a forward or rear-facing seat for children within a range of weight and height recommended by the manufacturer; and

(f) a statement describing vehicle characteristics where the child restraint system is or is not to be used, including

(i) in the case of every child restraint system that is designed to employ belts to restrain the child, a statement to snugly adjust the belts provided with the child restraint around the child,

(ii) in the case of a child restraint system that is not intended for use in motor vehicles at certain adjustment positions, the statement that those adjustment positions shall not be used,

(iii) in the case of a child restraint system equipped with an anchorage strap, the statement that the top anchorage strap must be secured as specified in the instructions,

(iv) in the case of a child restraint system that employs a fixed or movable surface to restrain the child, but that also requires harness straps, the statement that the fixed or movable surface is not sufficient to restrain the child, and

(v) provide an installation diagram showing the system correctly installed in a rear seating position, equipped with a lap belt and, if it is recommended by the manufacturer, a diagram showing the system installed in a right front outboard seating position equipped with a continuous-loop lap and shoulder belt.

(17) The recommended weight and height referred to in paragraph (16)(e) shall be expressed in both metric and imperial measurements with the metric measurements stated first, followed by the imperial measurements in parentheses.

(18) Each child restraint system shall be accompanied by printed instructions in English and in French that provide a step-by-step procedure, including diagrams, for installing the system in motor vehicles, securing the system in the vehicles, positioning the child in the system and adjusting the system to fit the child.

(19) The instructions referred to in subsection (18) shall

(a) specify the types of vehicles, seating positions and lap belts with which the system can or cannot be used;

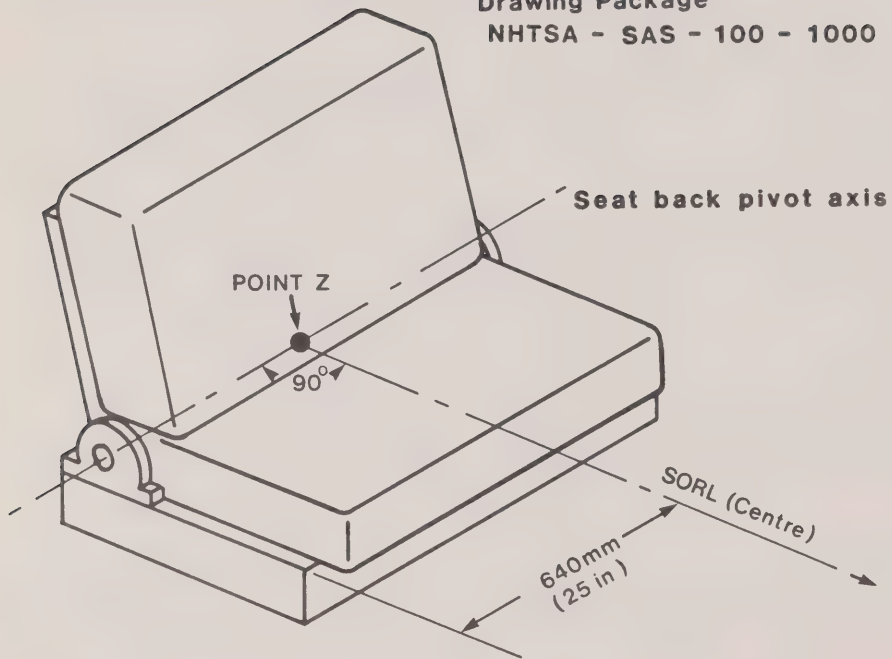
(b) explain the primary consequences of not following the warnings appearing on the restraint system in according with paragraphs (16)(e) and (f);

(c) state that the system should be securely belted to the vehicle even when unoccupied, since in a crash an

unsecured child restraint system may injure other occupants; and

(d) have a location on the system for storing the manufacturer's instructions.

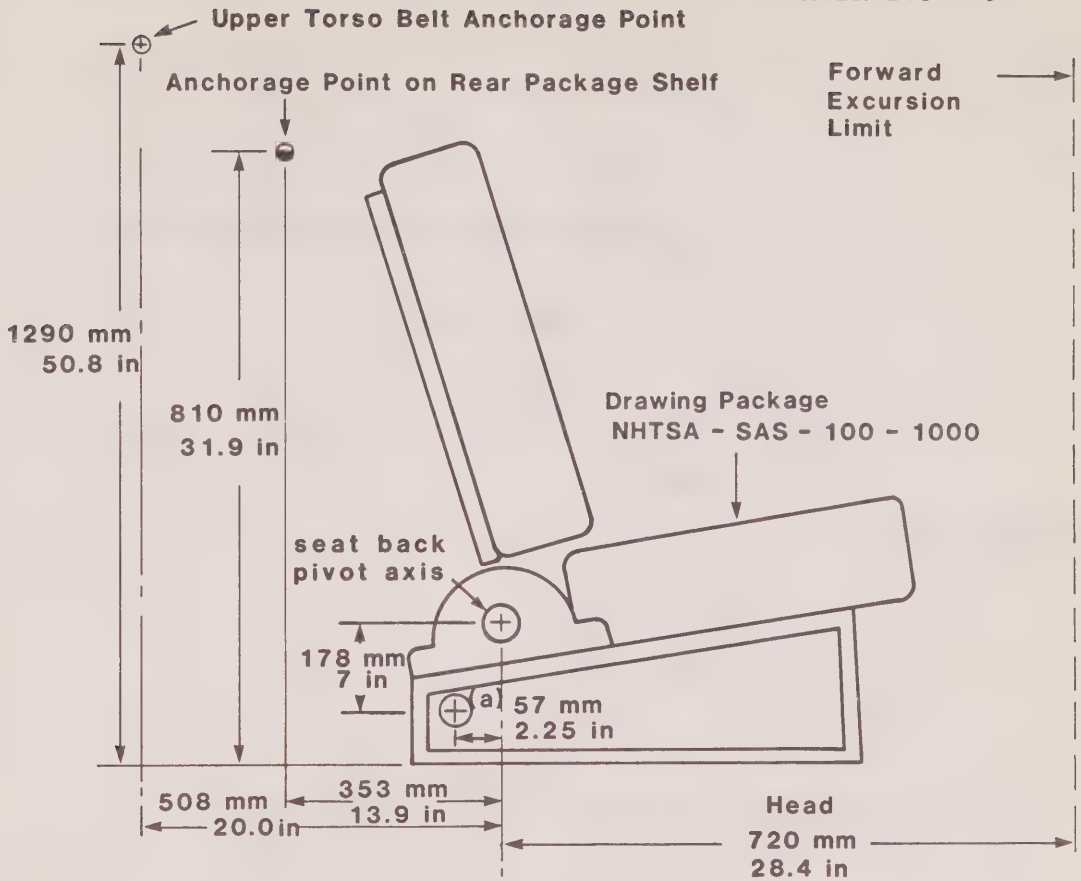
Drawing Package
NHTSA - SAS - 100 - 1000



SORL: Seat orientation reference line (horizontal)

Seat back to remain fixed relative to seat back pivot axis during dynamic testing

**THE STANDARD SEAT
FIGURE 1**



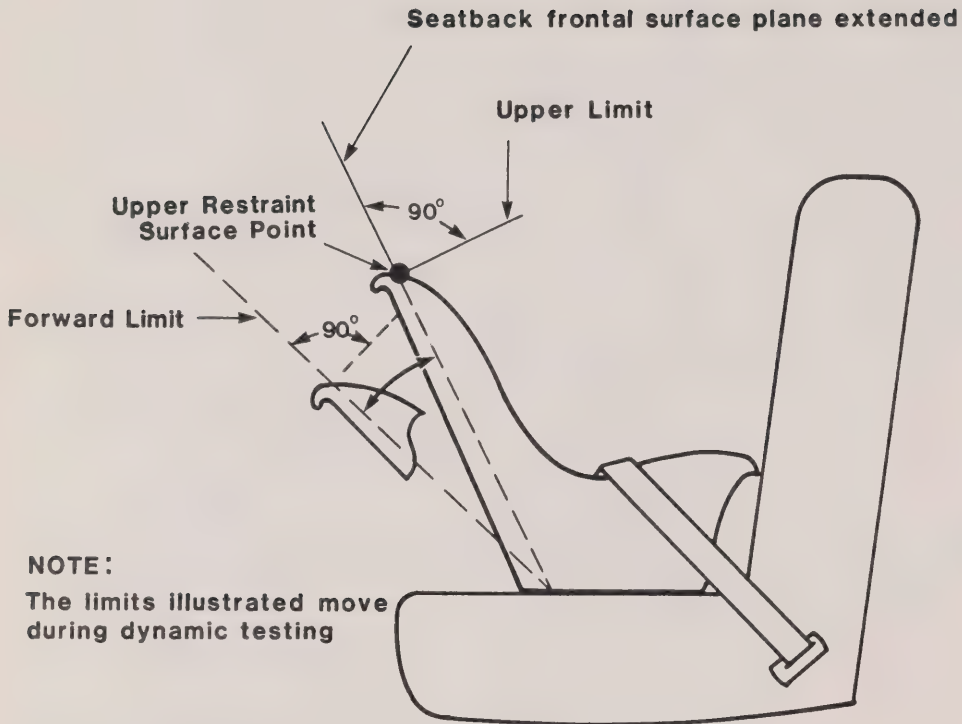
(a) Inboard Lap Belt Anchorage

NOTES

1. Upper Torso Belt Anchorage Point Located 545 mm (21.4 in) Right or Left of the Centre SORL as shown in Fig. 1
2. Inboard Lap Belt Anchorages Located 111 mm (4.38 in) Right and Left of the Centre SORL as shown in Fig. 1
3. Seat back to remain fixed relative to seat back pivot axis during dynamic testing.

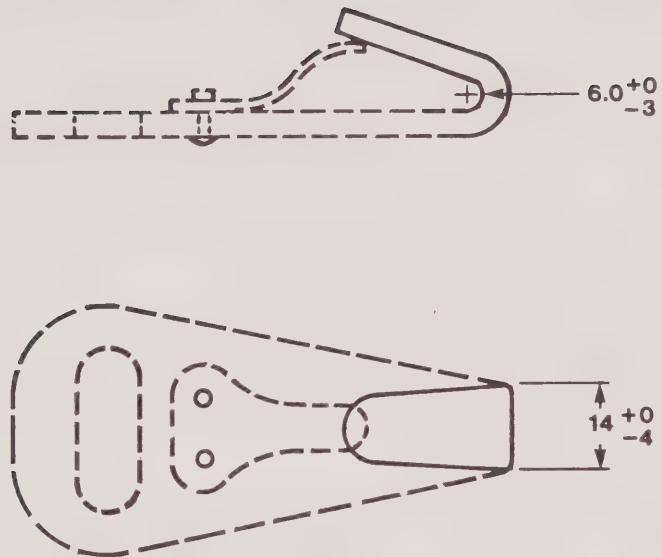
LOCATIONS OF ADDITIONAL BELT ANCHORAGE POINTS AND FORWARD EXCURSION LIMIT FOR CHILD RESTRAINT SYSTEM

FIGURE 2



**REAR FACING CHILD RESTRAINT
FORWARD AND UPPER HEAD EXCURSION LIMITS**

FIGURE 3



NOTE: All dimensions are in mm.

FIGURE 4 - TETHER BELT HOOK

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/84-374 11 May, 1984 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act

The heading preceding section 213 and section 213 of
Schedule IV

Infant Seating and Restraint Systems

213.1 (1) Every infant restraint system shall

(a) be designed to face the rear of the vehicle;

(b) be capable of being attached solely by means of a type 1 seat belt assembly in such a manner that the belt will not apply loads that result from the mass of the system directly to the infant;

(c) provide restraint against rearward movement of the head of the infant toward the front of the vehicle by means of a continuous seat back that

(i) is an integral part of the system,

(ii) shall not load the top of the infant's head,

(iii) has a height, measured on the vertical longitudinal center line of the system to the top of the system seat back surface from the lowest point on the system seating surface that is contacted by the buttocks of a seated anthropomorphic test device, of at least 450 mm (18 inches), and

(iv) has a width of at least 150 mm (6 inches) when measured 50 mm (2 inches) below the uppermost edge of the system seat back surface; and

(d) be constructed of only materials that conform to the requirements of section 302.

(2) Every infant restraint system shall, as the primary means of restraint,

(a) provide a surface for the support of the infant's back that is flat or concave and has a continuous area of not less than 54 800 mm² (85 sq. inches); and

(b) provide surfaces for support of each side of the infant's torso, that are flat or concave and have a continuous area of not less than 30 500 mm² (48 sq. inches) for each surface.

(3) Every infant restraint system shall, with an anthropomorphic test device positioned in accordance with Motor Vehicle Safety Test Methods, Section 213.1, "Infant Seating and Restraint Systems", (July 19, 1982) provide additional restraint for

(a) the upper torso, in the form of belts passing over each shoulder of the infant; and

(b) the lower torso.

(4) Every part of an infant restraint system that is designed to restrain an infant shall be sufficiently adjustable to allow an infant of any size for which the system is recommended by the manufacturer to be placed in the system and to allow adjustment in accordance with the manufacturer's instructions.

(5) Any portion of a rigid structural component within or underlying a contactable surface of an infant restraint system shall, with any padding or flexible overlay material removed, have a height above any immediately adjacent restraint system surface of not more than 9.5 mm (3/8 inch) and no exposed edge of the component shall have a radius of less than 6.4 mm (1/4 inch).

(6) Each infant restraint system surface that is contactable by the anthropomorphic test device head when it is installed in accordance with Motor Vehicle Safety Test Methods, Section 213.1, "Infant Seating and Restraint Systems", (July 19, 1982) shall be covered with slow recovery energy absorbing material and shall have

(a) a 25 per cent compression-deflection resistance of not less than 4 kPa (0.5 pounds per square inch) and not more than 70 kPa (10 pounds per square inch) when tested in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child and Infant Seating and Restraint Systems", (April 1, 1982);

(b) a thickness of not less than 12 mm (1/2 inch) if the material has a 25 per cent compression-deflection resistance of not less than 12 kPa (1.8 pounds per square inch) and not more than 70 kPa (10 pounds per square inch) when tested in accordance with Motor Vehicle Test Methods, Section 213, "Child and Infant Seating and Restraint Systems", (April 1, 1982); and

(c) a thickness of not less than 19 mm (3/4 inch) if the material has a 25 per cent compression-deflection resistance of less than 12 kPa (1.8 pounds per square inch) when tested in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child and Infant Seating and Restraint Systems", (April 1, 1982).

(7) The webbing of belts provided with an infant restraint system and used to attach the system to the vehicle or to restrain the infant within the system shall

(a) after being subjected to abrasion as specified in Motor Vehicle Safety Test Methods, Section 209, "Seat Belt Assemblies" (1 June, 1978) have a breaking strength of not less than 75 per cent of the strength of the unabraded webbing;

(b) meet the requirements of paragraphs 209(7)(h) to (k); and

(c) if contactable by an anthropomorphic test device torso when the system is tested dynamically, have a width of 38 mm (1 1/2 inches) when measured as specified in Motor Vehicle Safety Test Methods, Section 209, Seat Belt Assemblies (1 June, 1978).

(8) Every belt buckle and item of belt adjustment hardware used in an infant restraint system shall conform to the requirements of subsections 209(12), (17) and (19).

(9) Any buckle in an infant restraint system belt assembly designed to restrain the infant shall not release when a force of less than 35 N (8 pounds) is applied before dynamic testing and shall release when a force of not more than 70 N (16 pounds) is applied after dynamic testing in accordance with Motor Vehicle Safety Test Methods, Section 213, "Child and Infant Seating and Restraint Systems", (April 1, 1982).

(10) Every infant restraint system shall be so designed and constructed that in an impact simulation carried out in accordance with Motor Vehicle Safety Test Methods, section 213.1, "Infant Seating and Restraint Systems", (July 19, 1982)

(a) no complete separation of any load bearing structural element and no partial separation exposing either surfaces of the infant restraint system with a radius of less than 6.4 mm (1/4 inch) or surfaces with protrusions greater than 9.5 mm (3/8 inch) above the adjacent surrounding contactable surface of any structural element occurs;

(b) the infant restraint system remains in the same adjustment position throughout the impact simulation;

(c) movement of the anthropomorphic test device is so restricted that the target point on the head of the test device does not at any time during and immediately after the impact simulation, pass through the transverse vertical plane passing through

(i) the forward most point on the top of the infant restraint system (see Fig. 2), and

(ii) point X on the standard seat (see Fig. 3); and

(d) the angle between the back and head support surface, measured 240 mm (9.4 inches) above the seat surface, and the vertical shall not be greater than 70 degrees at any time during the impact simulation.

(11) The seat used in the impact simulation shall be the dynamic seat assembly described in drawing package NHTSA-SAS-100-1000 (see Fig. 1).

(12) Every infant restraint system in which the position of the infant is adjustable shall meet the requirements of subsection (10) at each adjustment position that the manufacturer has not specifically warned against using in motor vehicles in accordance with paragraphs (13)(f) and (16)(b).

(13) Every infant restraint system shall have indelibly printed on it, or otherwise permanently affixed to it, in English and French, in a prominent location in letters and numerals not less than 10 point,

(a) the name and principal place of business of the person by whom or for whom the infant restraint system is made;

(b) the model name or number of the system;

(c) the month and year of manufacture of the system;

(d) a statement indicating that the restraint system conforms to Canada Motor Vehicle Safety Standard, Section 213.1;

(e) a statement indicating that the system is

(i) for use by infants up to a weight and height recommended by the manufacturer, or

(ii) a dual-purpose seat for use as a rear facing seat for infants up to a weight and height recommended by the manufacturer and as a forward facing seat for children within a range of weight and height recommended by the manufacturer;

(f) a statement describing vehicle characteristics where the infant restraint system is or is not to be used, including

(i) a statement that the system is for use only in forward facing seats equipped with lap belts,

(ii) a statement indicating that the restraint is to be in a rearward facing position when using it with an infant, and

(iii) a statement that the restraint must be secured with a vehicle belt as shown in the installation instruction; and

(g) a statement indicating that the user should snugly adjust the belts provided with the restraint around their child.

(14) The recommended weight and height referred to in paragraph (13)(e) shall be expressed in both metric and imperial measurements with the metric measurements stated first, followed by the imperial measurements in parentheses.

(15) Each infant restraint system shall be accompanied by printed instructions in English and in French that provide a step-by-step procedure, including diagrams, for installing the system in motor vehicles, securing the system in the vehicles, positioning an infant in the system and adjusting the system to fit the infant.

(16) The instructions referred to in subsection (15) shall

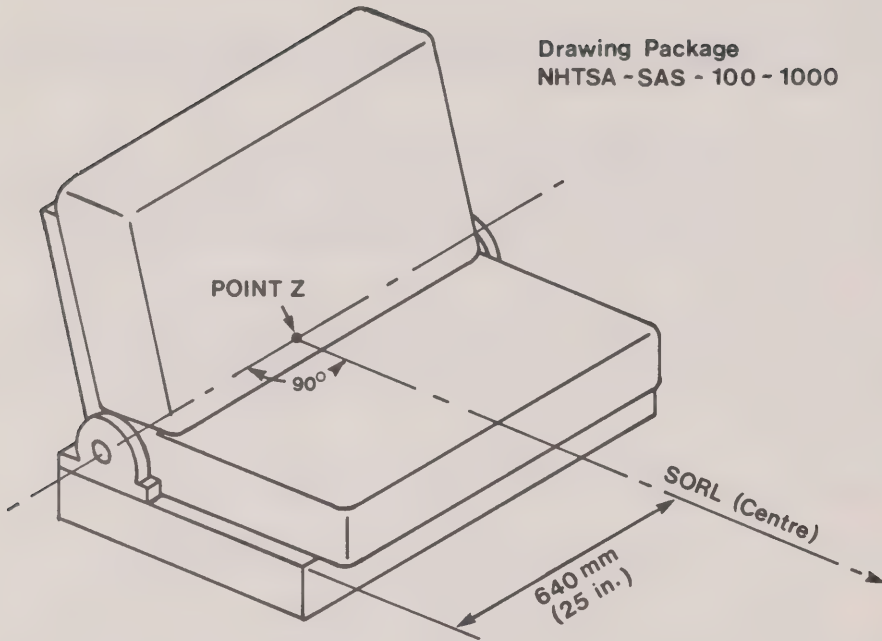
(a) specify the types of vehicles, seating positions and lap belts with which the system can or cannot be used;

(b) explain the primary consequences of not following the warnings appearing on the restraint system in accordance with paragraphs (13)(e) to (g);

(c) state that the system should be securely belted to the vehicle even when unoccupied since in a crash an unsecured infant restraint system may injure other occupants;

(d) have a location on the system for storing the manufacturer's instructions; and

(e) provide an installation diagram showing the system correctly installed in a centre rear seating position, and, if it is recommended by the manufacturer, a diagram showing the system installed in a right front outboard seating position equipped with a continuous loop lap/shoulder belt.



SORL = Seat orientation reference line (Horizontal)

SORL LOCATION ON THE STANDARD SEAT

FIGURE 1

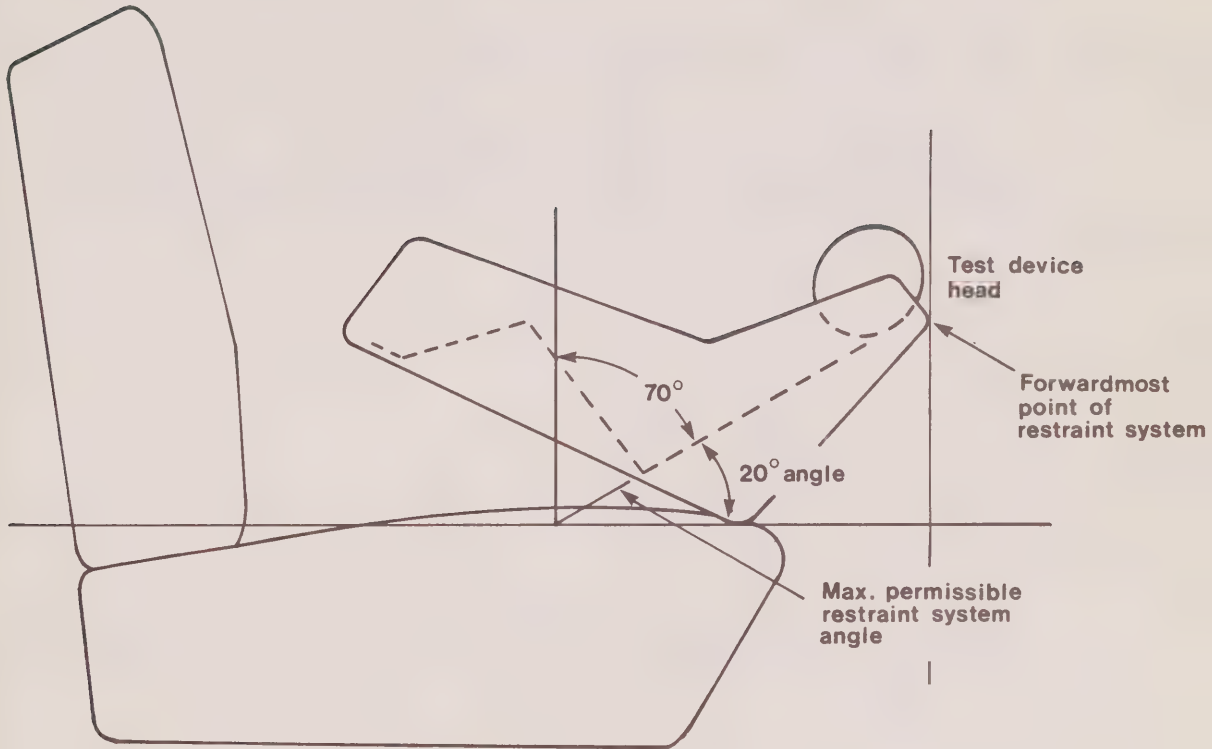


FIGURE 2

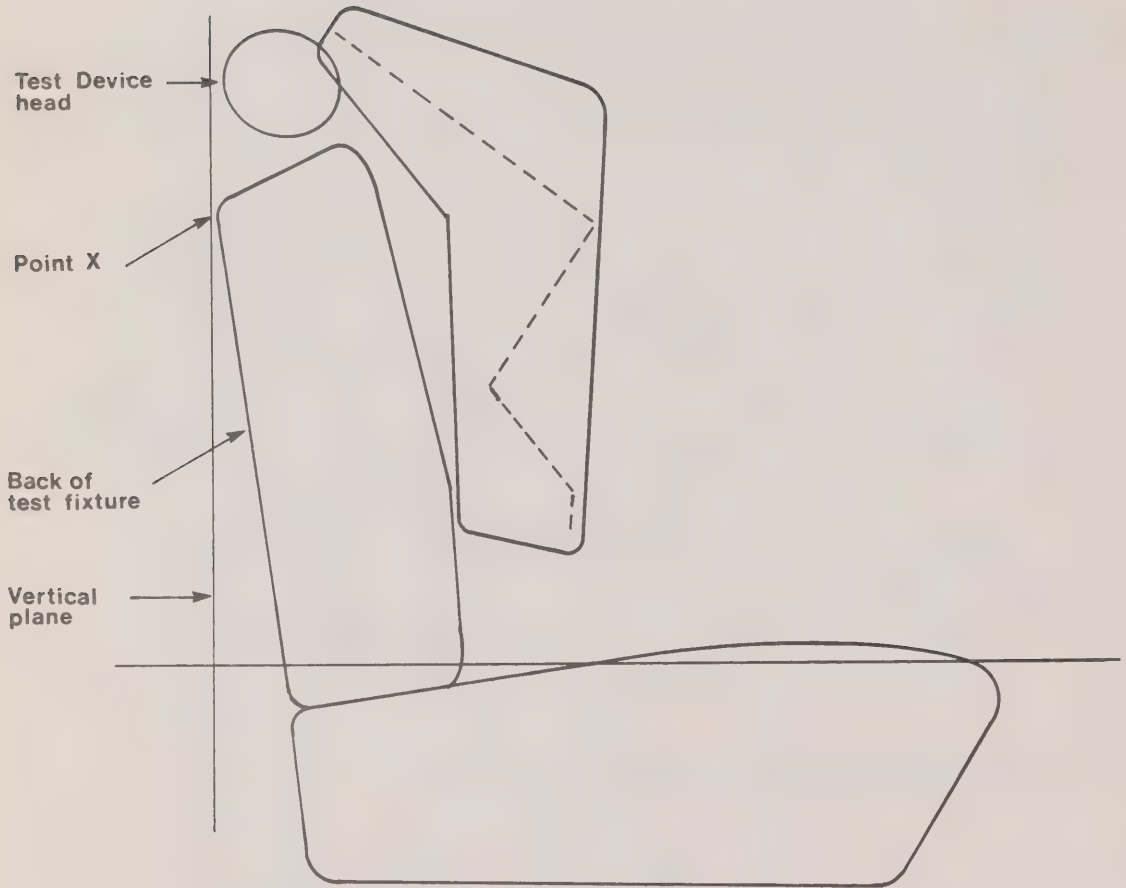


FIGURE 3

Established by

SOR/82-569 3 June, 1982 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act, effective September 1, 1982

amended by

SOR/84-374 11 May, 1984 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act

Subsection 213.1(3) of Schedule IV preceding paragraph (a),
subsection 213.1(6) of Schedule IV preceding paragraph (a)
and subsection 213.1(10) of Schedule IV preceding paragraph
(a)

Booster Cushions

213.2 (1) Every booster cushion shall have indelibly printed on it, or otherwise permanently affixed to it, in English and French, in letters and numerals not less than 10 point,

(a) the name and principal place of business of the person by whom or for whom the booster cushion is manufactured;

(b) the model name or number of the booster cushion;

(c) the month and year of manufacture of the booster cushion;

(d) a statement that the booster cushion conforms to Canada Motor Vehicle Safety Standards, section 213.2;

(e) a statement indicating that the booster cushion is for use by a child who weighs at least 18 kg (40 lb.) and who is over a height recommended by the manufacturer;

(f) a statement indicating that the booster cushion must be secured with a lap belt or lap-shoulder belt assembly provided in a motor vehicle, whether the cushion is in use or not;

(g) a clear illustration showing the proper installation of the booster cushion in a lap belt and a lap-shoulder belt assembly provided in a motor vehicle; and

(h) an explanation of any special installation problems that are likely to occur, such as the accommodation of a rigid stalk, and their solution.

(2) The recommended weight and height referred to in paragraph (1)(e) shall be expressed in both metric and imperial measurements with the metric measurements stated first, followed by the imperial measurements in parentheses.

(3) Every booster cushion shall be constructed only of materials that conform to the requirements of Canada Motor Vehicle Standard, section 302.

(4) Every booster cushion shall be designed to be used solely with the adult seat belt assembly provided in a motor vehicle and shall not incorporate any additional harness.

(5) After first applying a 175 N force to pre-load the cushion, no booster cushion, including any padding or covering, shall deflect more than 25 mm under the application of a vertical 2 250 N force applied anywhere on

the upper seating surface of the booster cushion through an apparatus described in paragraph 20 of the American Society for Testing and Materials Standard (ASTM) D3574-77, Flexible Cellular Materials--Slab, Bonded and Molded Urethane Foams.

Established by

SOR/83-176 18 February, 1983 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act, effective March 9, 1983

Section 213.1 of Schedule IV by adding section 213.2.

SOR/87-659 19 November, 1987 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Paragraph 213.2(e) of Schedule IV; and subsection 213.2(5)
of Schedule IV.

Side Door Strength

214. (1) In this section,

- “initial crush resistance” means the average force required to deform the door measured over the initial 150 mm (6 inches) of crush;
- “intermediate crush resistance” means the average force required to deform the door measured over the initial 300 mm (12 inches) of crush;
- “peak crush resistance” means the greatest force recorded over the entire 460 mm (18 inches) of crush.

(2) Where a side door of any vehicle can be used for occupant egress and that side door is subjected to Motor Vehicle Safety Test Methods, Section 214, Side Door Strength, revised September 1, 1980, the test may be conducted, at the option of the manufacturer,

(a) with any seats removed from the vehicle that may affect load on or deflection of the side of the vehicle; or

(b) with all seats installed in the vehicle and placed

(i) in any horizontal or vertical position to which they can be adjusted, and

(ii) at any seat back angle to which they can be adjusted.

(3) Where the test referred to in subsection (2) is conducted in the manner set out in paragraph (a) of that subsection, the side doors of the vehicle shall have

(a) an initial crush resistance of not less than 10kN (2,250 pounds);

(b) an intermediate crush resistance of not less than 15.5 kN (3,500 pounds); and

(c) a peak crush resistance of not less than the lesser of twice the curb weight of the vehicle and 31 kN (7,000 pounds).

(4) Where the test referred to in subsection (2) is conducted in the manner set out in paragraph (b) of that subsection, the side doors of the vehicle shall have

- (a) an initial crush resistance of not less than 10 kN (2,250 pounds);
- (b) an intermediate crush resistance of not less than 19.3 kN (4,375 pounds);
- (c) a peak crush resistance of not less than the lesser of twice the curb weight of the vehicle and 53.4 kN (12,000 pounds).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/82-275 26 February, 1982 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Section 214 of Schedule IV.

Bumpers

215. (1) Every vehicle that is impacted at its unloaded vehicle weight by a pendulum-type testing device in accordance with subsections (3) to (5) shall, where prior to each impact in any test described in this section it had

(a) its front wheels parallel to the vehicle's longitudinal centreline,

(b) its tires inflated to the vehicle manufacturer's recommended pressure indicated on the placard pursuant to subsection 110(5) for the specified loading condition,

(c) its brakes disengaged and the transmission in neutral, and

(d) trailer hitches and licence plate brackets removed from the vehicle,

have, during and after each impact in any test described in this section,

(e) each lamp or reflective device, except licence plate lamps, free of cracks and meeting the visibility requirements of section 108 or 108.1, whichever is applicable,

(f) the aim of each headlamp to which section 108 is applicable adjustable to within the beam aim inspection limits specified in SAE Recommended Practice J599d (December 1974) measured with a mechanical aimer that meets the requirements of SAE Standard J602c (December 1974),

(g) the aim of each headlamp to which section 108.1 is applicable adjustable to within the beam aim inspection limits required under that section,

(h) the hood, trunk and doors operating in the normal manner,

(i) no leaks in the fuel and cooling systems and no constricted fluid passages and all sealing devices and caps operating in the normal manner,

(j) no leaks or constrictions in the exhaust system, and

(k) the propulsion, suspension, steering and braking systems in adjustment and operating in the normal manner.

(2) Every vehicle that, after being impacted by a pendulum-type testing device in accordance with subsections (3) to (5), is impacted into a fixed-collision barrier that is perpendicular to the line of travel of the vehicle while it is travelling longitudinally forward at 8 km/h (5 mph) and longitudinally rearward at 8 km/h (5 mph), with its engine operating at idle speed and subject to the conditions set out in paragraphs (1)(a) to (d) shall, during and after each impact, meet the requirements of paragraphs (1)(e) to (k).

(3) Every vehicle shall be impacted on the front surface and rear surface two times each with the impact line at any height between 500 mm (20 inches) and 400 mm (16 inches) in accordance with the following longitudinal impact test procedure:

(a) for impacts at a height between 500 mm (20 inches) and 400 mm (16 inches), place the test device shown in Figure 2 to this section so that plane A is vertical and the impact line is horizontal at a height within the range;

(b) for each impact, position the test device so that the impact line is at least 50 mm (2 inches) apart in vertical direction from its position in any prior impact, unless the midpoint of the impact line with respect to the vehicle is to be positioned more than 300 mm (12 inches) apart laterally from its position in any prior impact;

(c) for each impact, align the vehicle so that it touches, but does not move, the test device, with the vehicle's longitudinal centreline perpendicular to the plane that includes plane A of the test device and with the test device at any position inboard of the vehicle corner test position specified in subsection (4);

(d) move the test device away from the vehicle, then release it so that plane A remains vertical from release until the onset of rebound, and the arc described by any point on the impact line is constant, with a radius of not less than 3.3 m (11 feet), and lies in a plane parallel to the vertical plane through the vehicle's longitudinal centreline;

(e) impact the vehicle with the test device moving at 8 km/h (5 mph) at the moment of impact; and

(f) perform the impacts at intervals of not less than 30 minutes.

(4) Every vehicle shall be impacted on a front corner and a rear corner once each with the impact line at a height of

500 mm (20 inches) in accordance with the following corner impact test procedure:

(a) for an impact at a height of 500 mm (20 inches) place the test device shown in Figure 1 to this section so that plane A is vertical and the impact line is horizontal at the specified height;

(b) for each impact align the vehicle so that a vehicle corner touches, but does not move, the lateral centre of the test device, with plane A of the test device forming an angle of 60 degrees with a vertical longitudinal plane;

(c) move the test device away from the vehicle, then release it so that plane A remains vertical from release until the onset of rebound, and the arc described by any point on the impact line is constant, with a radius of not less than 3.3 m (11 feet), and lies in a vertical plane at an angle of 30 degrees to the vertical plane through the vehicle's longitudinal centreline; and

(d) impact each corner with the test device moving at 4.8 km/h (3 mph) at the moment of impact.

(5) For the purposes of subsections (3) and (4),

(a) the test device consists of a block with one side contoured as specified in Figures 1 and 2 to this section with the impact ridge made of hardened steel;

(b) with plane A vertical, the impact line shown in the said Figures 1 and 2 is horizontal at the same height as the test device's centre of percussion;

(c) the effective impacting mass of the test device is equal to the mass of the tested vehicle; and

(d) when impacted by the test device, the vehicle is at rest on a level, rigid concrete surface.

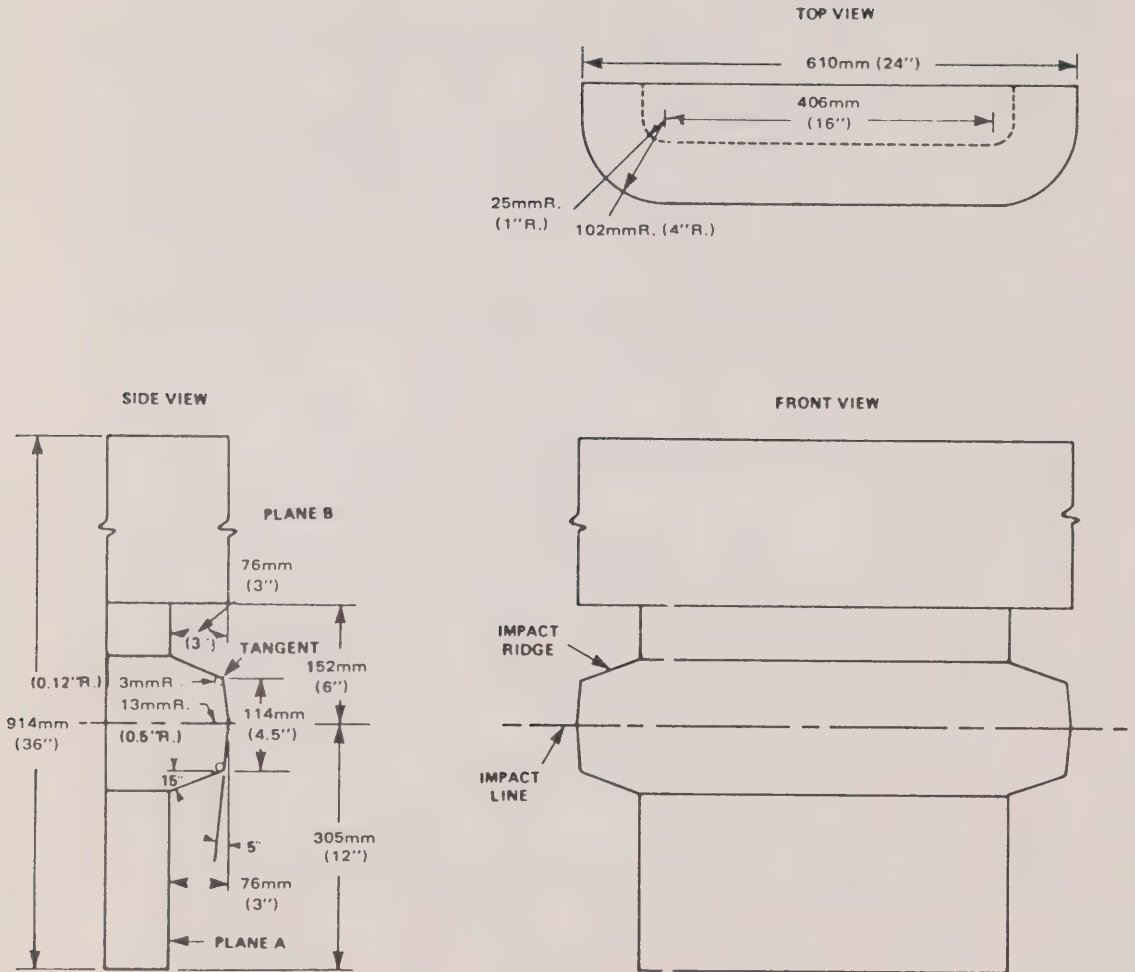


FIGURE 1

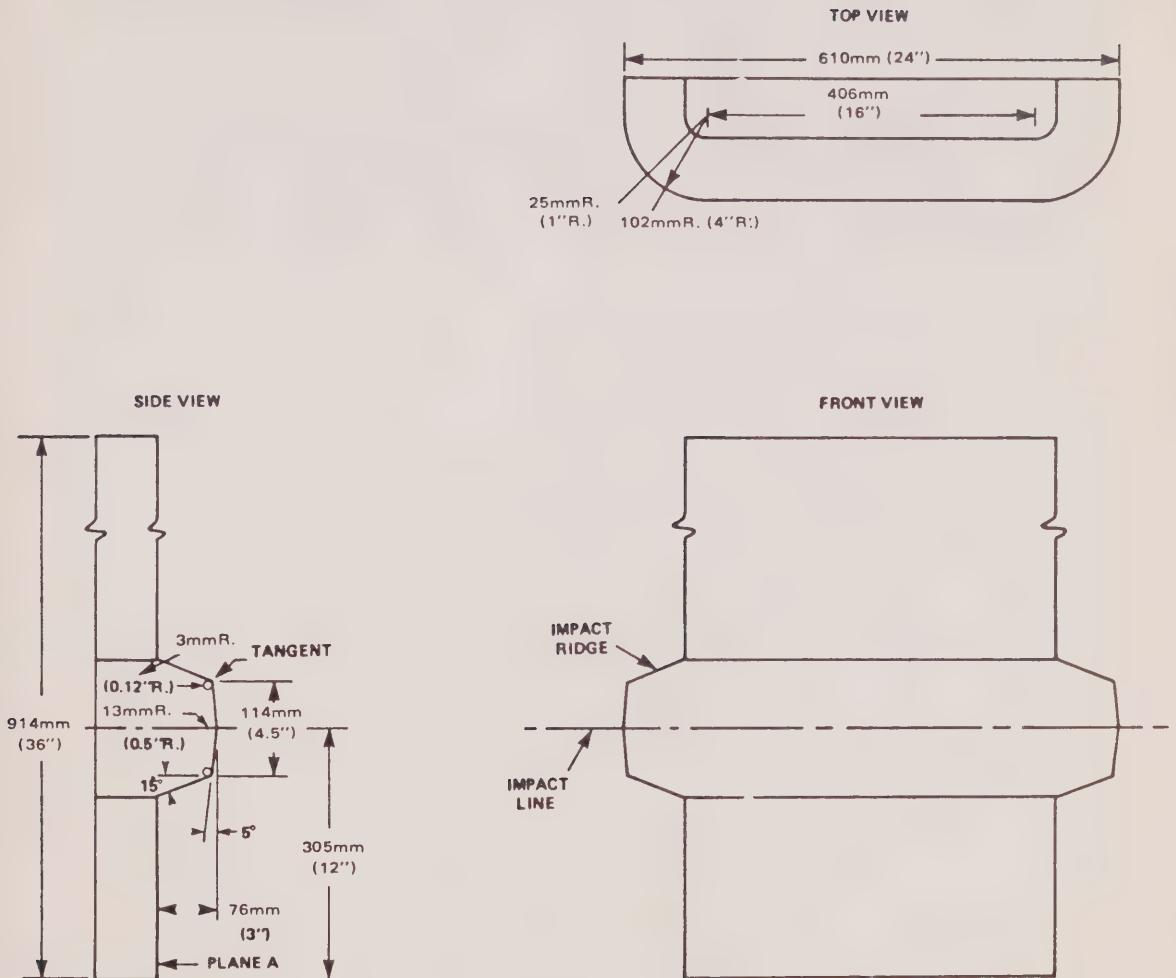


FIGURE 2.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-338 9 April, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 215 of Schedule IV.

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Paragraph 215(1)(e) of Schedule IV; and paragraph 215(1)(g)
of Schedule IV.

Roof Intrusion Protection

216. Except in the case of convertibles, where a vehicle is subjected to Motor Vehicle Safety Test Methods, Section 216, Roof Intrusion Protection, approved December 7, 1973, a test device consisting of a rigid unyielding block with its lower surface formed as a flat rectangle 762 mm by 1 828.8 mm (30 inches by 72 inches) shall not intrude more than 127 mm (5 inches) in the left or right front portion of the vehicle's roof structure when applied thereto with a force of 1.5 times the unloaded vehicle weight of the vehicle or 22 241N (5,000 pounds), whichever is the lesser.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Bus Window Retention, Release and Emergency Exits

217. (1) This section does not apply to a windshield or window the minimum linear surface dimension of which, when measured through the centre of the area of the window, does not exceed 200 mm (8 inches).

(2) Subject to subsection (1), when tested in accordance with the conditions set out in subsections (24) and (25), every piece of window glazing and every surrounding window frame in a bus shall be retained by its surrounding structure in a manner that prevents the formation of any opening large enough to admit the passage of a 100 mm (4 inch) diameter sphere under a force of 22 N (5 pounds) including the weight of the sphere, when a force is applied to the window glazing through an approved head form, as shown in Figure 4, travelling at 50 mm/min (2 inches per minute) outward and perpendicular to the undisturbed inner surface at the centre of the area of each sheet of window glazing until

(a) a force of 5 300 N (1,200 pounds) is reached;

(b) at least 80 per cent of the total glazing thickness has developed cracks radiating from the load contact region to the periphery at two or more points;

(c) the glazing shatters; or

(d) the inner surface of the glazing at the centre of the force application has moved in relation to the window frame, along a line perpendicular to the undisturbed inner surface, a distance equal to one-half of the square root of the minimum linear surface dimension measured through the centre of the area of the entire sheet of window glazing.

(3) Every bus other than a school bus and a bus manufactured for the purpose of transporting persons under physical restraint shall be provided with unobstructed openings for emergency exit, the combined areas of which, when measured

(a) in square centimetres, is equal to at least 430 times the number of designated seating positions on the bus; or

(b) in square inches, is equal to at least 67 times the number of designated seating positions on the bus.

(4) A minimum of 40 per cent of the combined areas of the unobstructed openings required by subsection (3) shall be provided on each side of the bus.

(5) In determining the combined areas of unobstructed openings provided in a bus, no emergency exit, regardless of its actual area, shall be deemed to measure more than 3 450 cm² (536 square inches).

(6) Subject to subsections (3), (4), (5) and (7), every bus with a GVWR of more than 4 536 kg (10,000 lb.) shall be provided with

(a) at least one side door for each three designated seating positions in the vehicle; or

(b) side exits and at least one rear emergency exit that meet the requirements of subsections (11) to (18),

(i) when the bus is upright, and

(ii) when the bus is overturned on its side and any occupant is standing facing the rear emergency exit.

(7) Where the configuration of a bus described in subsection (6) precludes the installation of an accessible rear emergency exit, the bus may be equipped in its rear half with a roof emergency exit that meets the requirements of subsections (11) to (18) when the bus is overturned on its side and any occupant is standing facing the roof emergency exit.

(8) Subject to subsections (3) to (5), every bus with a GVWR of 4 536 kg (10,000 lb.) or less shall be provided with

(a) devices that meet the requirements of subsections (11) to (18) and do not use

(i) remote controls, or

(ii) central power systems;

(b) windows that can be opened manually to a position providing an opening large enough to admit unobstructed passage of an ellipsoid, with its major axis parallel to the longitudinal axis of the vehicle, that is generated by the rotation about its minor axis of an ellipse having a major axis of 500 mm (20 inches) and a minor axis of 330 mm (13 inches); or

(c) doors.

(9) Every school bus shall be provided with, at the option of the manufacturer,

(a) one rear emergency door that opens outward and is hinged on the right side for a bus with a GVWR of more than 4 536 kg (10,000 lb.);

(b) at least one rear emergency door that opens outward and is hinged on either side for a bus with a GVWR of 4 536 kg (10,000 lb.) or less; or

(c) the following emergency exits, namely,

(i) one emergency door

(A) hinged on its forward side, and

(B) located on the left side of the bus in the rear half of the bus passenger compartment, and

(ii) one push-out rear window that

(A) provides a minimum opening clearance 400 mm (16 in.) high and 1 200 mm (48 in.) wide,

(B) is capable of being released by the operation of not more than two mechanisms that are located in the high-force access region as shown in Figure 3C and that do not have to be operated simultaneously, and

(C) for release and opening, requires a force of not more than 180 N (40 lb.) applied in the directions specified in subsections (13) and (14).

(10) Every school bus shall be provided with a warning system that shall

(a) be activated when the vehicle ignition is in the ON position and

(i) any emergency exit of the bus is locked in such a manner that the release mechanism of the exit cannot be activated by a person at that exit without the use of a special device, such as a key, or special information, such as a lock combination, or

(ii) any emergency exit release mechanism is not in the closed position; and

(b) generate a continuous warning sound audible at the driver's seating position and in the immediate vicinity of the emergency door or push-out window that caused the system to be activated.

(11) Every push-out window or other emergency exit not required by subsection (9) shall have one or two release mechanisms located within the access regions shown in Figure 1, Figure 2 or Figure 3.

(12) The lower edge of the low-force access region in Figure 1 and the lower edge of region B of the high-force access region in Figure 2 shall be located

(a) 130 mm (5 inches) above the adjacent seat, or

(b) if an arm rest is fitted, 50 mm (2 inches) above the arm rest,

whichever is the higher.

(13) When tested in accordance with the conditions set out in subsections (24) and (26) both before and after the window retention test described by subsection (2), every emergency exit of a bus, other than an emergency door required by subsection (9), shall allow manual release of the exit release mechanism by an occupant using, at the option of the manufacturer,

(a) a low-force application of not more than 90 N (20 pounds) in a rotational or linear direction if the emergency exit release mechanism is located as shown in Figure 1 or Figure 3 of this section; or

(b) a high-force application of not more than 270 N (60 pounds) in a linear direction perpendicular to the undisturbed emergency exit surface if the emergency exit release mechanism is located as shown in Figure 2 or Figure 3 of this section.

(14) Every emergency exit release mechanism shall require for its operation not more than two applications of force, one of which must differ by 90 to 180 degrees from the direction of the initial push-out motion of the emergency exit.

(15) When tested in accordance with the conditions set out in subsections (24) and (26) both before and after the window retention test described in subsection (2), every school bus emergency door shall allow manual release of the door by one person, from both inside and outside the bus passenger compartment, using a force, not exceeding 180 N (40 pounds), that

(a) in the case of a school bus with a GVWR of more than 4 536 kg (10,000 lb.), is applied

(i) within the high force access region shown in Figure 3A for a side emergency door and in Figure 3D for a rear emergency door,

(ii) in any direction from outside the bus, and

(iii) in an upward direction from inside the bus; and

(b) in the case of a school bus with a GVWR of less than 4 536 kg (10,000 lb.), is applied

(i) in any direction from outside the bus, and

(ii) from inside the bus, by an upward or pull type motion, except that where a pull type motion is used the release mechanism shall be recessed in such a manner that the handle, lever or other activating device does not protrude beyond the rim of the recessed receptacle.

(16) Every school bus emergency door release mechanism shall be capable of being operated without the use of remote controls or tools and shall function independently of the vehicle's power system.

(17) Every emergency exit of a bus, other than an emergency door required by subsection (9), shall, after the release mechanism has been operated, be capable of being extended manually by an occupant, using the force applications and reach distances described in subsection (13), to a position providing an opening large enough to admit unobstructed passage of an ellipsoid described in paragraph (8)(b).

(18) Every emergency door of a school bus, when tested in accordance with the conditions set out in subsections (24) and (26) both before and after the window retention test described in subsection (2), shall, after the release mechanism has been operated, be capable of being extended manually by one person to a position that provides

(a) in the case of a side emergency door, an opening at least 1 140 mm (45 inches) high and 600 mm (24 inches) wide located so that a vertical transverse plane tangent to the rearmost point of a seat back passes through the forward edge of the side emergency door;

(b) in the case of a rear emergency door for a school bus with a GVWR of more than 4 536 kg (10,000 lb.), an opening at least 600 mm (24 inches) wide that allows the unobstructed passage of a rectangular parallelepiped measuring

- (i) 1 140 mm (45 inches) in height,
 - (ii) 300 mm (12 inches) in width perpendicular to the longitudinal axis of the bus, and
 - (iii) 300 mm (12 inches) in depth parallel to the longitudinal axis of the bus, with a 300 mm (12 inches) x 300 mm (12 inches) surface of the parallelepiped kept in contact with the floor of the bus at all times; and
- (c) in the case of a rear emergency door or doors for a school bus with a GVWR of 4 536 kg (10,000 lb.) or less, an opening large enough to permit the unobstructed passage of a rectangular parallelepiped measuring

- (i) 1 140 mm (45 inches) in height,
- (ii) 560 mm (22 inches) in width perpendicular to the longitudinal axis of the bus, and
- (iii) 150 mm (6 inches) in depth parallel to the longitudinal axis of the bus, with the 150 mm (6 inches) x 560 mm (22 inches) surface of the parallelepiped kept in contact with the floor of the bus at all times except that where small protrusions near the floor of the bus prevent egress of the parallelepiped, the parallelepiped may be lifted 26 mm (1 inch) to overcome such obstructions.

(18.1) Notwithstanding paragraph 18(c), in the case of a rear emergency door or doors for a school bus with a GVWR of 4 536 kg (10,000 lb.) or less, an opening at least 600 mm (24 in.) wide may be provided if

- (a) it allows the unobstructed passage of the rectangular parallelepiped described in paragraph (18)(b);
- (b) each rear emergency door of the bus meets the requirements of paragraphs 206(3)(a), (b) and (c) and subsections 206(7), (8) and (10), as applicable, except that the loads referred to in paragraphs 206(3)(a), (b) and (c) as longitudinal shall be applied transversely and the loads referred to in paragraphs 206(3)(a), (b) and (c) as transverse shall be applied longitudinally;
- (c) the rear emergency door or doors are operated by a single release mechanism that meets the requirements of paragraph (15)(b);
- (d) in the case of a bus that has two rear emergency doors, the doors are operated by a single release

mechanism that causes simultaneous opening of both doors;
and

(e) the release mechanism referred to in paragraphs (c) and (d) is located at a height between 500 mm (20 inches) and 1 000 mm (40 inches) from the floor and is within 150 mm (6 inches) of the centre of the aisle leading to the door or doors referred to in those paragraphs, as measured horizontally to the vertical centre line of the release mechanism pivot point.

(19) Every push-out window or other emergency exit in a bus shall, for the purposes of identification and operation, be identified with a label located within 150 mm (6 inches) of its release mechanism bearing words in both official languages or an approved symbol that identifies the emergency exit, and followed by concise operation instructions in both official languages, except that school bus emergency exits shall be identified in accordance with the requirements of subsection (23).

(20) Where a release mechanism is not located within the occupant space of an adjacent seat, a label indicating the location of the nearest release mechanism in both official languages and meeting the requirements of subsection (21) shall be placed within the occupant space.

(21) The marking on every label referred to in subsections (19) and (20) shall be legible to an occupant with corrected visual acuity corresponding to a Snellen ratio of 20/40 who is a person described in

(a) paragraph (22)(a), (b) or (c) when the locations described in the other two of those paragraphs are occupied; and

(b) paragraph (22)(d) or (e) when the only source of light is the normal night time illumination of the bus interior and the occupant is a person described in subsection (22).

(22) For the purposes of subsection (21), the following persons are described:

(a) a person seated in the adjacent seat;

(b) a person seated in the seat directly adjoining the adjacent seat;

(c) a person standing in the aisle location that is closest to the adjacent seat;

(d) a person standing in the aisle location nearest to the emergency exit when the exit has no adjacent seat; or

(e) a person lying with his back against the floor opposite the roof emergency exit if the vehicle is so equipped.

(23) Each school bus emergency exit provided in accordance with subsection (9) shall

(a) be identified as "Emergency Door" and "Porte de secours" or "Emergency Exit" and "Issue de secours" or "Sortie de secours", whichever is applicable, in letters at least 50 mm (2 in.) high of a colour that contrasts with its background located at the top of or directly above the emergency door or exit on both the inside and outside surfaces of the bus; and

(b) have concise operating instructions describing the motions and, if applicable, sequence of motions necessary to unlatch and open the emergency door or exit, in letters at least 9.5 mm (3/8 in.) high of a colour that contrasts with its background, located within 150 mm (6 in.) of the release mechanism on the inside surface of the bus.

(24) For the purposes of subsections (2), (13), (15), (17) and (18)

(a) the vehicle shall be on a flat, horizontal surface; and

(b) the temperature inside and outside shall be maintained between 20°C and 30°C (70°F and 85°F) for a period of four hours immediately preceding the tests and during the tests.

(25) For the purpose of subsection (2), all windows installed in the vehicle shall be closed and latched in the manner intended for normal bus operation if latches are provided, except that to demonstrate compliance of windows installed in folding doors, the test need not be performed with the doors installed in the vehicle.

(26) For the purposes of subsections (13), (15), (17) and (18), all seats, arm rests and interior objects near the windows of the vehicle shall be adjusted for normal use with the seats in the upright position.

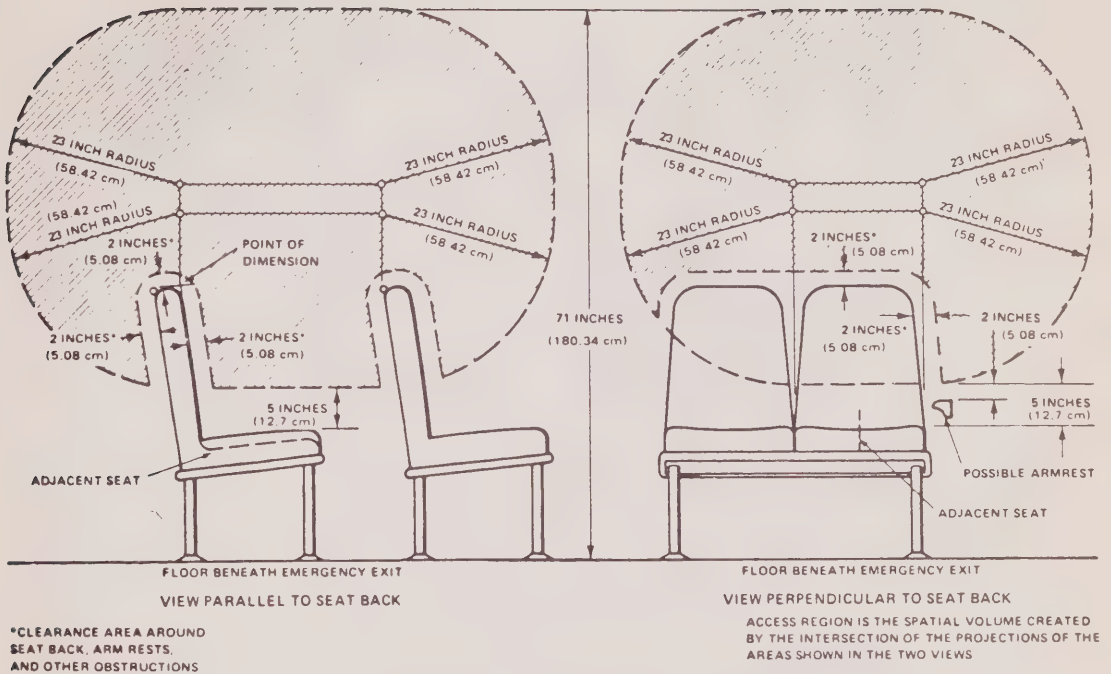


FIGURE 1 LOW-FORCE ACCESS REGION FOR EMERGENCY EXITS HAVING ADJACENT SEATS

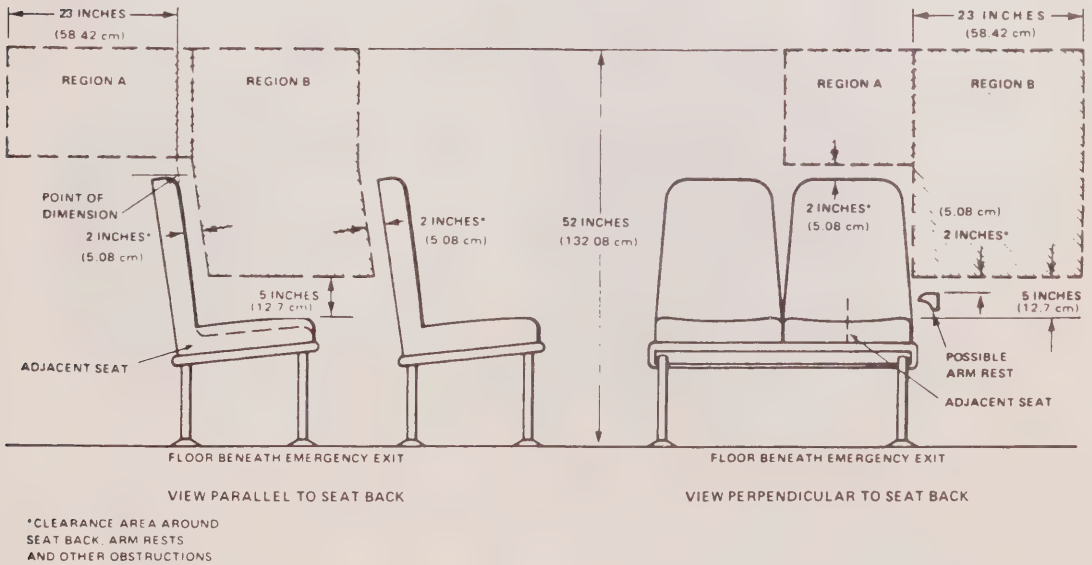
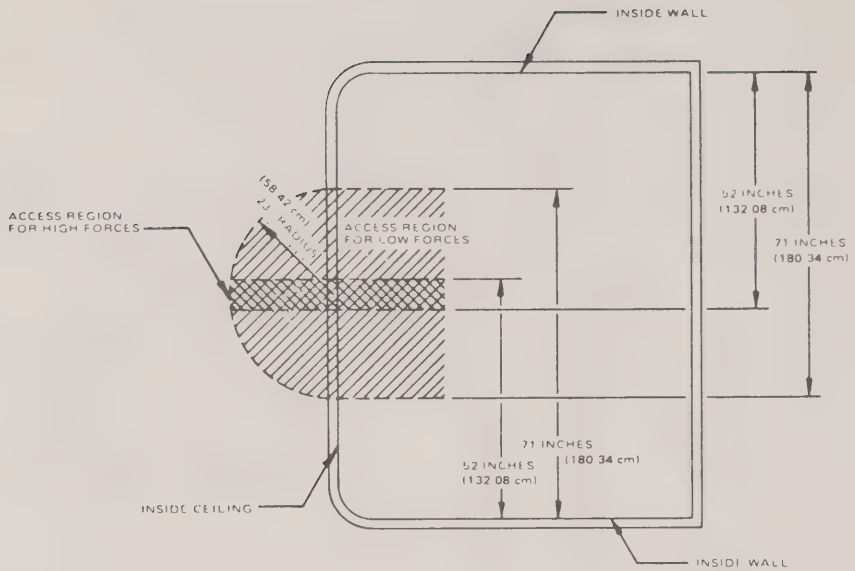
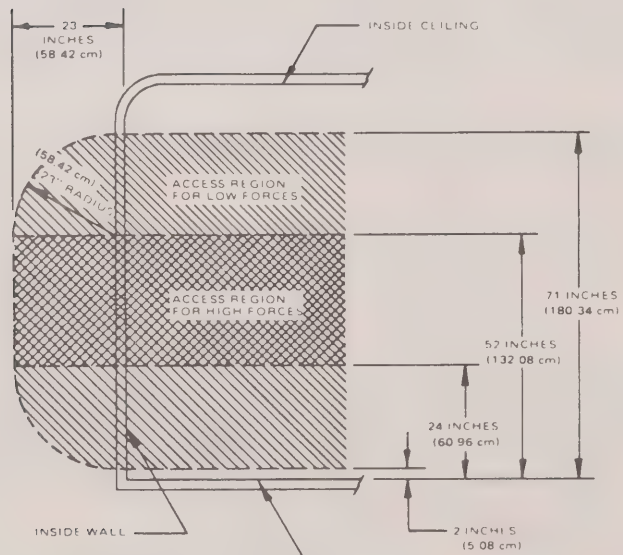


FIGURE 2 HIGH-FORCE ACCESS REGIONS FOR EMERGENCY EXITS HAVING ADJACENT SEATS

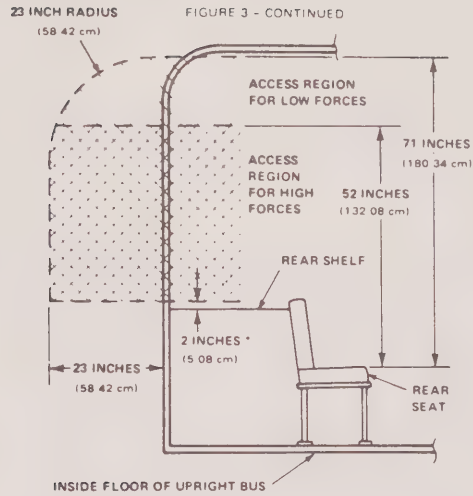


3A. ROOF EMERGENCY EXIT



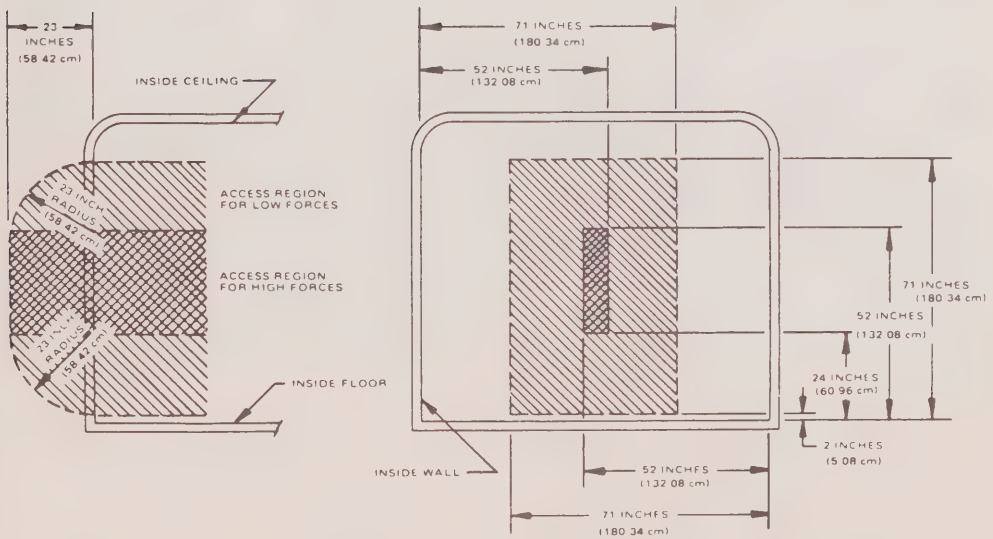
3B. SIDE EMERGENCY EXIT

FIGURE 3 LOW AND HIGH FORCE ACCESS REGIONS FOR EMERGENCY EXITS WITHOUT ADJACENT SEATS



*TYPICAL CLEARANCE AROUND OBSTRUCTIONS

3C. REAR EMERGENCY EXIT WITH REAR OBSTRUCTION



3D. REAR EMERGENCY EXIT WITHOUT REAR OBSTRUCTION

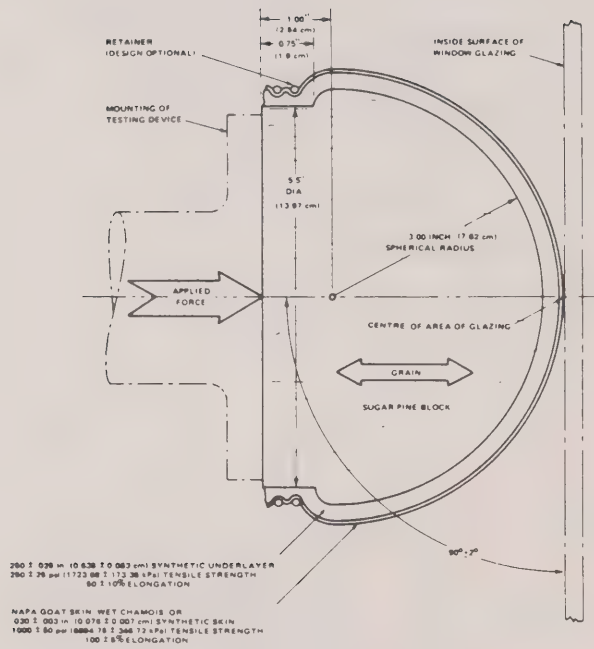


FIGURE 4 HEAD FORM

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-159 21 February, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 30, 1980

Revoked and replaced.

SOR/86-978 11 September, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 217(2) of Schedule IV of the French version; subsection 217(8) of Schedule IV of the French version preceding paragraph (b); paragraph 217(9)(b) of Schedule IV; subsection 217(15) of Schedule IV of the French version preceding paragraph (b); paragraph 217(18)(a) of Schedule IV; subparagraph 217(18)(b)(i) of Schedule IV; paragraph 217(18)(c) of Schedule IV preceding subparagraph (ii); section 217 of Schedule IV by adding subsection (18.1); subsection 217(20) of Schedule IV of the French version; and subsection 217(25) of Schedule IV.

SOR/87-176 19 March, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 217(6) of Schedule IV preceding paragraph (b); subsection 217(8) of Schedule IV preceding paragraph (a); subsection 217(9) of Schedule IV; subparagraph 217(10)(a)(i) of Schedule IV; paragraph 217(15)(a) of Schedule IV preceding subparagraph (i); paragraph 217(15)(b) of Schedule IV preceding subparagraph (i); paragraph 217(18)(b) of Schedule IV preceding subparagraph (i); paragraph 217(18)(c) of Schedule IV preceding subparagraph (i); subsection 217(18.1) of Schedule IV preceding paragraph (a); paragraph 217(18.1)(b) of Schedule IV; and subsection 217(23) of Schedule IV.

Windshield Zone Intrusion

219. (1) In this section,

“daylight opening” or “DLO” means the maximum unobstructed opening through the glazing surface including reveal or garnish mouldings adjoining the surface, as measured parallel to the outer surface of the glazing material;

“protected zone” means the space displayed in Figure 1 to this section and enclosed as set out in subsection (5);

“protected zone template” means a template cut or formed from type DB, cut cell styrofoam to the dimensions of the protected zone.

(2) This section does not apply to

(a) any vehicle with a GVWR in excess of 4 500 kg (10,000 lbs.); or

(b) forward control vehicles, walk-in van type vehicles or open body type vehicles with fold down or removable windshields.

(3) Where a vehicle that is prepared in accordance with subsection (6) is travelling longitudinally forward at any speed up to and including 48 km/h (30 mph) and impacts a fixed collision barrier that is perpendicular to the line of travel of the vehicle, there shall be no penetration

(a) of the protected zone template to any depth in excess of 6 mm (1/4 inch) by any part of the vehicle outside the occupant compartment, other than windshield mouldings or other components designed to be normally in contact with the windshield; or

(b) of the inner surface of that portion of the windshield within the DLO below the protected zone by any part of the vehicle outside the occupant compartment, other than windshield mouldings or other components designed to be normally in contact with the windshield.

(4) The lower edge of the protected zone displayed in Figure 1 to this section shall be determined as follows:

(a) place a 165 mm (6.5 inches) diameter rigid sphere having a mass of 6.8 kg (15 lbs.) in such a position that it simultaneously contacts the inner surface of the

windshield glazing and the surface of the instrument panel, including any padding, and if the positioning of the sphere is obstructed by steering controls or other accessories or equipment, such accessories or equipment may be removed while the sphere is being positioned;

(b) draw the locus of points on the inner surface of the windshield contacted by the sphere across the width of the instrument panel and from the outermost of those points and extend the locus line horizontally to the edges of the glazing material;

(c) draw a line on the inner surface of the windshield below and at a distance of 13 mm (1/2 inch) from the locus line drawn in accordance with paragraph (b); and

(d) project the line drawn in accordance with paragraph (c) longitudinally on the outer surface of the windshield and the resulting line is the lower edge of the protected zone.

(5) The protected zone displayed in Figure 1 to this section is the space enclosed by

(a) the outer surface of the windshield;

(b) the locus of points 76 mm (3 inches) outward along perpendiculars drawn to each point on the outer surface of the windshield; and

(c) the locus of lines forming a 45 degree angle with the outer surface of the windshield at each point along the top and side edges of the outer surface of the windshield and the lower edge of the protected zone determined by subsection (4) in the plane perpendicular to the edge at that point.

(6) Every vehicle shall, prior to the impact described in subsection (3), be loaded in accordance with subsection (7) or (8), whichever is applicable, and prepared in such a way that

(a) the protected zone template is affixed to the windshield so that it delineates the protected zone and remains affixed throughout the crash test;

(b) the hood, hood latches and any other hood retention components are engaged;

(c) adjustable cowl tops or other adjustable panels in front of the windshield are in the position used under

normal operating conditions when the windshield wiping system is not in use;

(d) the parking brake is disengaged and the transmission is in neutral;

(e) the tires are inflated to the vehicle manufacturer's specifications; and

(f) the fuel tank is filled to any level from 90 to 95 per cent of capacity with Stoddard solvent, having the physical and chemical properties of type 1 solvent, as set out in Table 1 of the American Society for Testing and Materials Standard D.484-71 "Standards Specification for Hydrocarbon Dry Cleaning Solvents".

(7) For the purpose of subsection (6), a passenger car with test devices and instrumentation shall be loaded to the unloaded vehicle mass with the fuel tank filled as specified in paragraph (6)(f) and the following shall be added to the load:

(a) the vehicle rated cargo and luggage capacity mass, secured in the luggage area; and

(b) the appropriate number of anthropomorphic test devices, as specified in subsection (9), restrained only by means that are installed in the vehicle for protection at their seating positions.

(8) For the purpose of subsection (6), a multi-purpose passenger vehicle, truck or bus, with test devices and instrumentation and the fuel tank filled as specified in paragraph (6)(f) shall be loaded to the unloaded vehicle mass or 2 500 kg (5,500 lbs.), whichever is the lesser, except that this mass shall not include the mass of any work performing accessories, and the following shall be added to the load:

(a) the vehicle rated cargo and luggage capacity mass or 140 kg (300 lbs.), whichever is the lesser, secured to the vehicle and distributed so that the mass on each axle as measured at the tireground interface is in proportion to its GAWR, except that if the mass on any axle, when the vehicle is loaded to the unloaded vehicle mass plus anthropomorphic test device mass, exceeds the axle's proportional share of the test mass, the remaining mass shall be placed so that the mass on that axle remains the same; and

(b) the appropriate number of anthropomorphic test devices, as specified in subsection (9), restrained only

by means that are installed in the vehicle for protection at their seating positions.

(9) A 50th percentile male anthropomorphic test device shall be provided at each front outboard designated seating position and at any other position whose protection system is required to be tested using an anthropomorphic test device in accordance with the provisions of section 208 of this schedule.

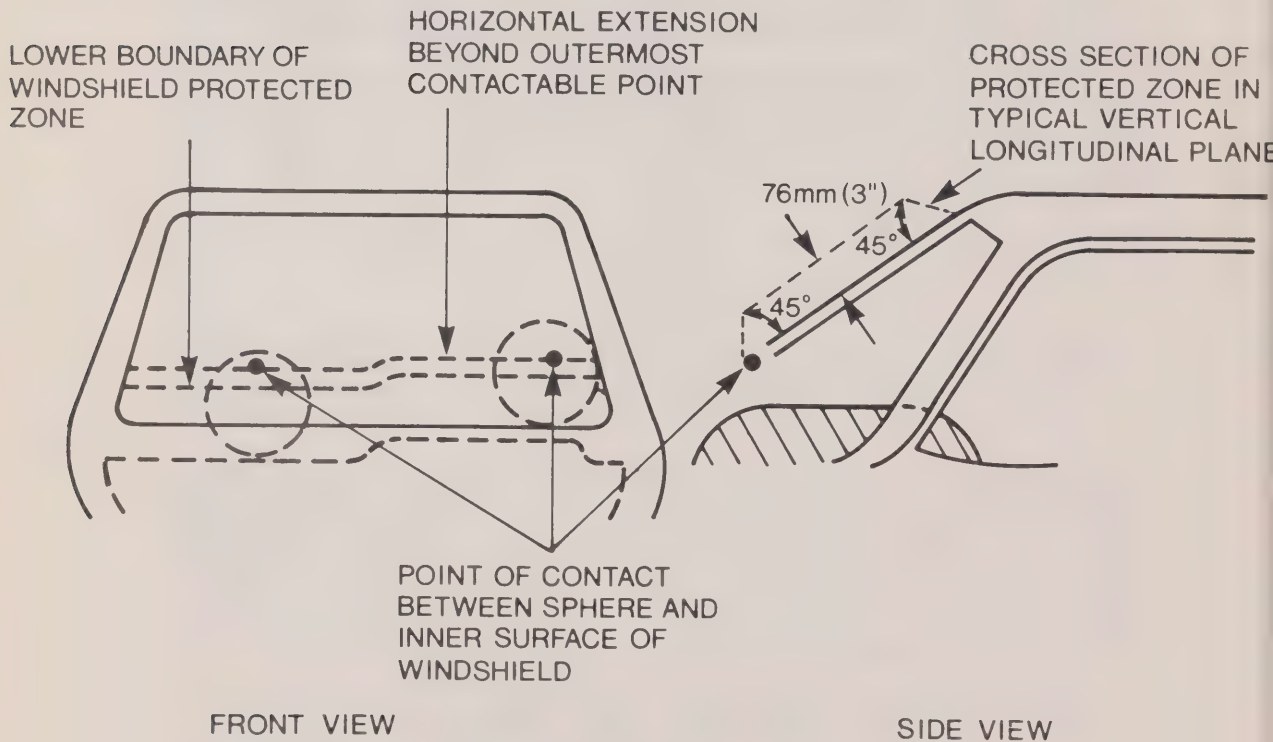


Figure 1: WINDSHIELD PROTECTED ZONE

Established by

SOR/81-665 20 August, 1981 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective 1 January, 1982

Rollover Protection

220. (1) This section applies only to school buses.

(2) Subject to subsection (3), when a force equal to 1 1/2 times the unloaded vehicle weight is applied to the roof of the vehicle's body structure through a force application plate as specified in Motor Vehicle Safety Test Methods, section 220, approved July 19, 1976,

(a) the downward vertical movement at any point on the application plate shall not exceed 130 mm (5 1/8 inches); and

(b) every exit required by section 217 of this Schedule, except roof emergency exits, shall meet the emergency exit opening requirement of that section with the force applied and after the force has been released.

(3) An exit required by section 217 of this Schedule, other than a roof emergency exit, that has met the emergency exit opening requirement of that section with the force described in subsection (2) applied in the manner described therein need not meet the emergency exit opening requirement after the force has been released.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 218 is renumbered as section 220.

School Bus Body Joint Strength

221. (1) In this section,

“body component” means a part of a school bus body made from a single piece of homogeneous material or from a single piece of composite material such as plywood;

“body panel” means a body component used on the exterior or interior surface of a bus to enclose the bus occupant space;

“body panel joint” means the area of contact or close proximity between the edges of a body panel and another body component, excluding spaces designed for ventilation or another functional purpose, and excluding doors, windows and maintenance access panels;

“bus body” means the portion of a school bus that encloses the bus occupant space, exclusive of the bumpers, the chassis frame, and any structure in front of the most forward point of the windshield mounting.

(2) This standard applies only to school buses having a GVWR of more than 4 500 kg (10,000 pounds).

(3) When tested in accordance with Motor Vehicle Safety Test Methods Section 221, School Bus Body Joint Strength, approved December 15, 1977, every body panel joint shall be capable of sustaining, without separation, a tensile force that would produce 60% of the breaking tensile strength within the weakest body panel member attached by that joint.

(4) Material tensile strengths shall be determined by those test methods described in Motor Vehicle Safety Test Methods Section 221, School Bus Body Joint Strength, approved December 15, 1977.

Established by

SOR/80-160 21 February, 1980 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act, effective September 30,
1980

Schedule IV by adding section 221.

School Bus Passenger Seating and Crash Protection

222. (1) In this section,

“contactable surface” means any surface within the head protection zone that is contactable from any direction by a head form test device, except any surface on the front of a seat back or restraining barrier 76 mm (3 inches) or more below the top of the seat back or restraining barrier;

“head protection zones” means the spaces in front of each school bus passenger seat that are not occupied by any sidewall, window or door structure and that, in relation to that seat and its seating reference point, are enclosed by the following planes:

(a) horizontal planes 300 mm (12 inches) and 1 016 mm (40 inches) above the seating reference point,

(b) a vertical longitudinal plane tangent to the inboard (aisle side) edge of the seat,

(c) a vertical longitudinal plane 83 mm (3.25 inches) inboard of the outboard edge of the seat, and

(d) vertical transverse planes through and 760 mm (30 inches) forward of the seating reference point;

“leg protection zones” means those parts of a school bus passenger seat back or restraining barrier that are bounded by horizontal planes 300 mm (12 inches) above and 100 mm (4 inches) below the seating reference point of the school bus passenger seat immediately behind the seat back or restraining barrier;

“school bus passenger seat” means a seat in a school bus, other than the driver’s seat or a seat that is installed to accommodate a handicapped or convalescent passenger and is oriented in a direction that is more than 45 degrees to the left or right of the longitudinal centre-line of the vehicle.

“W” means the number of seating positions in a bench seat when calculated as the bench width in millimetres (inches) divided by 381 mm (15 inches) with the quotient rounded to the nearest whole number or, if the quotient is equidistant from two whole numbers, to the higher thereof.

(2) Every school bus shall, when subjected to Motor Vehicle Safety Test Methods, Section 222, School Bus Passenger Seating and Crash Protection, (December 19, 1983)

meet, at all designated seating positions other than the driver's seat, all the requirements of subsections (6) to (12).

(3) Any particular passenger seat of a school bus used as a test specimen when the school bus is subjected to the test methods referred to in subsection (2), need not meet further requirements after having been subjected to the requirements of

(a) subsections (6) and (9); or

(b) subsection (7), (8), (11) or (12).

(4) Every school bus passenger seat shall face the front.

(5) The number of seating positions in a bench type seat shall be obtained by dividing the bench width measured in millimetres or inches by 381 mm or 15 inches, as the case may be, and rounding the quotient to the nearest whole number or, if the quotient is equidistant from two whole numbers, to the higher thereof.

(6) Every school bus passenger seat shall be equipped with a seat back having

(a) a height not less than 508 mm (20 inches) above the seating reference point; and

(b) a front surface area of not less than 90 per cent of the seat bench width measured in millimetres or inches multiplied by 508 mm or 20 inches, as the case may be, that is

(i) above the horizontal plane that passes through the seating reference point, and

(ii) below the horizontal plane that passes through a point 508 mm or 20 inches above the seating reference point.

(7) Where a school bus passenger seat that has another seat behind it is subjected to forward performance tests as specified in the test methods referred to in subsection (2)

(a) the seat back force/deflection curve shall fall within the zone specified in Figure 1;

(b) the seat back deflection shall not exceed 356 mm (14 inches), as determined from the force/deflection curve;

(c) the seat shall not deflect by an amount such that any part of the seat moves to within 100 mm (4 inches) of any part of another school bus passenger seat or restraining barrier in its originally installed position;

(d) the seat shall not separate from the vehicle at any attachment point;

(e) the seat components shall not separate at any attachment point; and

(f) the energy absorbed in deflecting the seat back shall be not less than 452W Nm (4000W inch - pounds), as determined from the force/deflection curve.

(7.1) In subsection (7), "force/deflection curve" means,

(a) for the purposes of paragraphs (7)(a) and (b), the force applied by means of the upper loading bar and the forward travel distance of the pivot attachment point of the upper loading bar, measured from the point at which the initial application of 44.5 N (10 pounds) of force is attained; and

(b) for the purposes of paragraph (7)(f), the force applied by means of the upper loading bar and the forward and rearward travel distance of the pivot attachment point of the upper loading bar measured from the position at which the initial application of 44.5 N (10 pounds) of force is attained.

(8) Where a school bus passenger seat that has another seat behind it is subjected to rearward performance tests as specified in the test methods referred to in subsection (2),

(a) the seat back force shall not exceed 9786 N (2,200 pounds), as determined from the force/deflection curve;

(b) the seat back deflection shall not exceed 250 mm (10 inches), as determined from the force/deflection curve;

(c) the seat shall not deflect by an amount such that any part of the seat moves to within 100 mm (4 inches) of any part of another school bus passenger seat in its originally installed position;

(d) the seat shall not separate from the vehicle at any attachment point;

(e) the seat components shall not separate at any attachment point; and

(f) the energy absorbed in deflecting the seat back shall be not less than 316.4W Nm (2800W inch-pounds), as determined from the force/deflection curve.

(8.1) In subsection (8) 'force/deflection curve' means

(a) for the purposes of paragraphs (8)(a) and (b), the force applied by means of the loading bar and the rearward travel distance of the pivot attachment point of the loading bar measured from the point at which the initial application of 222.4 N (50 pounds) of force is attained; and

(b) for the purposes of paragraph (8)(f), the force applied by means of the loading bar and the rearward and forward travel distance of the pivot attachment point of the loading bar measured from the position at which the initial application of 222.4 N (50 pounds) of force is attained.

(9) No seat cushion with which a school bus passenger seat is equipped shall, where all the manual attachment devices between the seat and the seat cushion are in the manufacturer's designed position for attachment, separate from the seat at any attachment point when subjected to an upward force of five times the seat cushion weight, applied in any period of not less than 1 nor more than 2 seconds, and maintained for 5 seconds.

(10) A restraining barrier shall be provided forward of any designated seating position that does not have the rear surface of another school bus passenger seat within 610 mm (24 inches) of the seating reference point, measured along a horizontal line through the seating reference point in the forward direction, such that

(a) the horizontal distance between the restraining barrier's rear surface and the seating reference point of the seat in front of which it is required is not more than 610 mm (24 inches);

(b) the position and rear surface area of the restraining barrier shall be such that, in a front projected view of the bus, each point of the barrier's perimeter coincides with or lies outside of the perimeter of the seat back of the seat for which it is required; and

(c) when subjected to the forward force, as specified in the test methods referred to in subsection (2), the restraining barrier shall meet all the requirements specified in paragraphs (7)(a), (b), (d), (e) and (f) as

they apply to a seat, and the restraining barrier deflection shall not interfere with normal door operation.

(11) When any contactable surface of a school bus within the head protection zones is impacted from any direction by a head form test device, as specified in the test methods referred to in subsection (2),

(a) at 6.7 m/s (22 feet per second),

(i) the axial acceleration at the centre of gravity of the head form test device shall be such that the expression

$$\left[\frac{1}{t_2 - t_1} \int_{t_1}^{t_2} a dt \right]^{2.5} (t_2 - t_1)$$

shall not exceed 1,000, where "a" is the axial acceleration expressed as a multiple of "g" (the acceleration due to gravity), and t_1 and t_2 are any two points in time during the impact, and

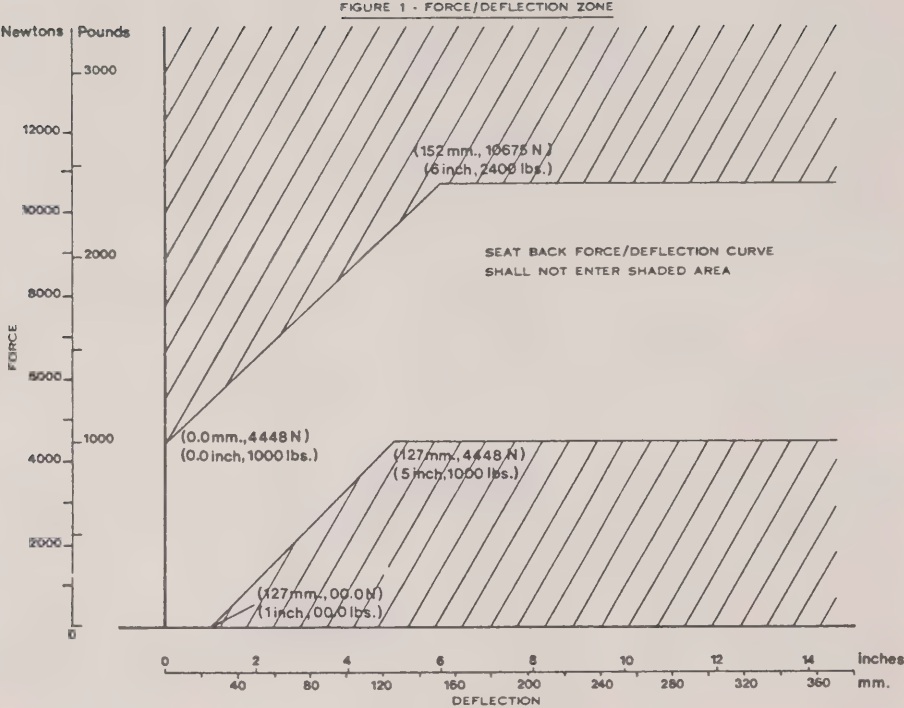
(ii) the energy necessary to deflect the impacted material shall be not less than 4.52 Nm (40 inch-pounds) before the force level on the head form test device exceeds 667 N (150 pounds); and

(b) at 1.5 m/s (5 feet per second) the contact area on the head form test device surface shall not be less than 1 935 mm² (3 square inches).

(12) When any point on the rear surface of a part of a seat back or restraining barrier within the leg protection zone is impacted from any direction by a knee form test device, as specified in the test methods referred to in subsection (2) at 4.88 m/s (16 feet per second)

(a) the resisting force of the impacted material shall not exceed 2 669 N (600 pounds); and

(b) the contact area on the knee form test device surface shall not be less than 1 935 mm² (3 square inches).



Established by

SOR/80-161 21 February, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 30, 1980

Schedule IV by adding heading and section 222.

SOR/86-453 17 April, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 222(1) of Schedule IV by adding the definition "W"; subsections 222(2) and (3) of Schedule IV; paragraph 222(7)(b) of Schedule IV; subsection 222(7) of Schedule IV by adding paragraph (f); section 222 of Schedule IV by adding subsection (7.1); paragraph 222(8)(a) and (b) of Schedule IV; subsection 222(8) of Schedule IV by adding paragraph (f); section 222 of Schedule IV by adding subsection (8.1); subsection 222(10) of Schedule IV preceding paragraph (b); and paragraph 222(10)(c) of Schedule IV.

PART IV

Fuel System Integrity

301. (1) This section does not apply to any vehicle that

(a) uses a fuel with a boiling point of 0°C (32°F) or lower; or

(b) has a GVWR of more than 4 500 kg (10,000 pounds) except that a school bus with a GVWR of more than 4 500 kg (10,000.pounds) shall meet the requirements of subsection (9).

(2) Fuel spillage in any fixed or moving barrier crash test shall not exceed

(a) 28 g (1 ounce) from impact until motion of vehicle has ceased;

(b) a total of 141 g (5 ounces) in the 5-minute period following cessation of motion; and

(c) 28 g (1 ounce) during any 1-minute interval for the subsequent 25-minute period.

(3) Fuel spillage in any roll-over test, from the onset of rotational motion, shall not exceed

(a) a total of 141 g (5 ounces) for the first 5 minutes of testing at each successive 90 degrees increment; and

(b) 28 g (1 ounce) during any 1-minute interval for the remaining testing period, at each increment of 90 degrees.

(4) Every vehicle shall be capable of meeting the requirements of any applicable barrier crash test followed by a static roll-over without alteration of the vehicle during the test sequence and a particular vehicle need not meet further requirements after having been subjected to a single barrier crash test and a static roll-over test.

(5) When a vehicle travelling longitudinally forward at any speed up to and including 48 km/h (30 m.p.h.) impacts a fixed collision barrier that is perpendicular to the line of travel of the vehicle, or that is at any angle up to 30° in either direction from the perpendicular to the line of

travel of the vehicle, as specified in the Motor Vehicle Safety Test Method, section 301, approved October 3, 1977, fuel spillage shall not exceed the limits set out in subsection (2).

(6) When a vehicle is impacted from the rear by a barrier moving at 48 km/h (30 m.p.h.), as specified in the Motor Vehicle Safety Test Method, section 301, approved October 3, 1977, fuel spillage shall not exceed the limits set out in subsection (2).

(7) When a vehicle is impacted laterally on either side by a barrier moving at 32 km/h (20 m.p.h.), as specified in the Motor Vehicle Safety Test Method, section 301, approved October 3, 1977, fuel spillage shall not exceed the limits set out in subsection (2).

(8) When a vehicle is rotated on its longitudinal axis to each successive increment of 90 , as specified in the Motor Vehicle Safety Test Method, section 301, approved October 3, 1977, following an impact crash referred to in subsection (5), (6) or (7), fuel spillage shall not exceed the limits set out in subsection (3).

(9) When a school bus with a GVWR of more than 4 500 kg (10,000 pounds) is impacted at any point and at any angle by a moving contoured barrier assembly travelling at any speed up to 48 km/h (30 m.p.h.), as specified in the Motor Vehicle Safety Test Method, section 301, approved October 3, 1977, fuel spillage shall not exceed the limits set out in subsection (2).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-158 21 February, 1980 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act, effective September 30,
1980

Subsection 301(1) of Schedule IV; and subsections 301(5) to
(8) of Schedule IV.

LPG Fuel System Integrity

301.1 (1) The fuel system of a vehicle that uses LPG as a source of energy for its propulsion shall, at the option of the manufacturer, comply with either the standard specified in subsection (2) or the requirements of the barrier crash test set out in subsection (3).

(2) Subject to subsection (1), the fuel system of a vehicle that uses LPG as a source of energy shall comply with the Canadian Gas Association Preliminary Standard 12.2 "'Propane Fuel System Components for Highway Vehicles'" dated November 1981, subsection 1.1.3 of that Standard notwithstanding, and the applicable installation requirements for that fuel system as specified in the "'National Standard of Canada CAN 1-B149-2-M80 Installation Code for Propane Burning Appliances and Equipment'" dated December 1980, except that

(a) where the word "'approved'" appears in those standards, it shall mean, for the purpose of this section, certifiable by the manufacturer in accordance with the requirements of section 6 of these Regulations;

(b) alternative methods of purging to those specified in paragraphs 10.23.1 and 11.2.6 of CAN 1-B149.2-M80 may be used;

(c) in paragraph 16.2.4 of CAN 1-B149.2-M80, the maximum spring deflection shall be considered as that corresponding to the static spring deflection when the vehicle is loaded to its GVWR;

(d) in paragraph 16.3.4 of CAN 1-B149.2-M80, "'Brazed Double Wall Low Carbon Steel Tubing'" complying with SAE standard J527b, as revised August 1972, shall be considered an acceptable alternative to the steel tubing allowed in this paragraph;

(e) in paragraph 16.4.6 of CAN 1-B149.2-M80, a container mounted 80 per cent automatic shut off refuelling valve shall be considered an acceptable alternative to the fixed liquid level gauge required by this paragraph;

(f) in paragraph 16.4.9 of CAN 1-B149.2--M80, the requirement for upward discharge from the relief valve and the requirement for a rain cap is not applicable;

(g) in paragraph 16.4.10 of CAN 1-B149.2-M80, the requirement that the discharge piping line be metallic or flexible metallic hose is not applicable;

(h) the requirements of paragraph 16.6.2 of CAN 1-B149.2-M80 are not applicable;

(i) the portion of paragraph 16.7.2 of CAN 1-B149.2-M80 following the word 'equipment' is not applicable; and

(j) the requirements of paragraph 17.4.6 of CAN 1-B149.2-M80 are not applicable and the following requirements substituted:

All propane piping, tubing and hose shall be supported at intervals of not more than four feet (1.25 m) by straps, hangers or ties made of galvanized or equivalent protected metal or of other material having corrosion-resistance equivalent to such metal, except where support for such piping, tubing or hose is provided by the structure.

(3) Subject to subsection (1), where a vehicle is subjected to the barrier crash test, the fuel system of the vehicle shall comply with the following requirements:

(a) there shall be no leakage of any test-fluid from the fuel system during any period commencing at the impact of the vehicle and ending one-half hour after motion of the vehicle ceases;

(b) the temperature-corrected pressure in the fuel system shall not decrease to less than 95 per cent of that required at the start of the test during any period of the test extending to one-half hour from the time motion of the vehicle ceases; and

(c) in the case of a vehicle with a GVWR of 4 500 kg (10,000 pounds) or less, the fuel container shall not become detached from the vehicle at any attachment point.

(4) In this section, 'barrier crash test' means,

(a) in the case of a vehicle with a GVWR of 4 500 kg (10,000 pounds) or less,

(i) impact by the vehicle when travelling longitudinally forward at any speed up to and including 48 km/h (30 mph) with a fixed collision barrier that is perpendicular to the line of travel of the vehicle, or that is at any angle up to 30 degrees in either direction from the perpendicular to the line of travel of the vehicle,

(ii) impact with the vehicle from the rear by a collision barrier moving at 48 km/h (30 mph), and

(iii) impact with the vehicle laterally on either side by a collision barrier moving at 30 km/h (20 mph), and

(b) in the case of a vehicle with a GVWR of more than 4 500 kg (10,000 pounds), impact with the vehicle at any point and at any angle by a moving contoured barrier assembly travelling at any speed up to 48 km/h (30 mph),

as specified in the Motor Vehicle Safety Tests Methods, section 301.1, May 31, 1982 by the Department of Transport.

Established by

SOR/82-754 29 July, 1982 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective January 1, 1983

Schedule IV by adding section 301.1.

CNG Fuel System Integrity

301.2 (1) The fuel system of a vehicle that uses CNG as a source of energy for its propulsion shall, when the vehicle is subjected to the barrier crash tests described in subsection (3), comply with the requirements set out in subsection (2) and with the standards of the Canadian Gas Association Preliminary Standard 12-3 1981 "'Compressed Natural Gas Fuel System Components for Use on Highway Vehicles'", dated June, 1981, subsection 1.1.3 of that Standard notwithstanding.

(2) Subject to subsection (1), where a vehicle is subjected to the barrier crash test, the fuel system of the vehicle shall comply with the following requirements:

(a) there shall be no leakage from the fuel system during any period commencing upon the impact of the vehicle and ending one half-hour after motion of the vehicle ceases;

(b) the temperature-corrected pressure in the fuel system shall not decrease to less than 95 per cent of that required at the start of the test during any period of the test extending to one-half hour from the time motion of the vehicle ceases; and

(c) in the case of a vehicle with a GVWR of 4 500 kg (10,000 pounds) or less, the fuel container shall not become detached from the vehicle at any attachment point.

(3) In this section, "'barrier crash test'" means,

(a) in the case of a vehicle with a GVWR of 4 500 kg (10,000 pounds) or less,

(i) impact by the vehicle when travelling longitudinally forward at any speed up to and including 48 km/h (30 mph) with a fixed collision barrier that is perpendicular to the line of travel of the vehicle, or that is at any angle up to 30 degrees in either direction from the perpendicular to the line of travel of the vehicle,

(ii) impact with the vehicle from the rear by a collision barrier moving at 48 km/h (30 mph), and

(iii) impact with the vehicle laterally on either side by a collision barrier moving at 30 km/h (20 mph), and

(b) in the case of a vehicle with a GVWR of more than 4 500 kg (10,000 pounds), impact with the vehicle at any point and at any angle by a moving contoured barrier assembly travelling at any speed up to 48 km/h (30 mph),

as specified in the Motor Vehicle Safety Tests Methods, section 301.2, approved May 31, 1982 by the Department of Transport.

(4) The fuel container of a vehicle that uses CNG as a source of energy for its propulsion shall have a design pressure (service pressure) of not less than 20 680 kPa (3000 psi) and the container shall

(a) comply with the Canadian Transport Commission (CTC) cylinder specification CTC-3A or CTC-3AA;

(b) be manufactured and equipped with pressure relief devices and periodically retested as prescribed for methane in the Regulations for the Transportation of Dangerous Commodities by Rail; or

(c) comply with the American Society of Mechanical Engineers, Pressure Vessel Code Section VIII, Division 1, requirements for a vessel to contain natural gas at the stated pressure.

Established by

SOR/82-754 29 July, 1982 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective January 1, 1983

Schedule IV by adding section 301.2.

Flammability

302. (1) Subject to subsections (4) and (5), the portion of every article described in subsection (2) that is within 13 mm (1/2 inch) of the occupant compartment air space, shall, when tested in the manner set out in subsection (3) in accordance with Motor Vehicle Test Method 302, Flammability, (January 9th, 1978), not burn or transmit a flame front across its surface, at a rate of more than 101.6 mm (4 inches) per minute.

(2) For the purposes of subsection (1), the articles described in this subsection are:

- (a) seat cushions;
- (b) seat backs;
- (c) seat belts;
- (d) headlining;
- (e) convertible tops;
- (f) arm rests;
- (g) trim panels including door, front, rear and side panels;
- (h) compartment shelves;
- (i) head restraints;
- (j) floor coverings;
- (k) sun visors;
- (l) curtains;
- (m) shades;
- (n) wheel housing covers;
- (o) engine compartment covers;
- (p) mattress covers; and

(q) any other materials that are designed to absorb energy or contact by occupants in the event of a crash, including padding and crash-deployed elements.

(3) The portion described in subsection (1) of every article described in subsection (2) shall be tested as follows:

(a) where the material of the portion of the article does not adhere to another material at every point of contact, it shall be tested separately; and

(b) where the material of the portion of the article adheres to another material at every point of contact, it shall be tested as a composite with the other material.

(4) The requirement of subsection (1) concerning transmission of a flame front shall not apply to a surface created by the cutting of a test specimen for purposes of testing pursuant to that subsection.

(5) Where a material stops burning before it has burned for sixty seconds from the start of timing and has not burned more than 50.8 mm (2 inches) from the point where the timing was started, it shall be deemed to comply with subsection (1).

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.
amended by

SOR/78-525 16 June, 1978 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective August 1, 1978

Section 302 of Schedule D.

SOR/79-262 16 March, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Subsection 302(3) of the French version.

Axles

901. (1) No axle, axle assembly or wheel, tire, suspension or other hardware of an axle assembly commonly referred to as running gear that is designed and manufactured exclusively for use on a mobile home or other vehicle that is not of a class prescribed by the Regulations shall be fitted to a trailer.

(2) The gross axle weight rating for each axle with which a trailer is equipped shall not

(a) in the case of a vehicle equipped with demountable rims and spoke wheels, exceed the rated load carrying capacity of

- (i) the suspension springs,
- (ii) the axle,
- (iii) the spoke wheels,
- (iv) the demountable rims, or
- (v) the tires; and

(b) in the case of a vehicle equipped with disc wheels and hubs, not exceed the rated load carrying capacity of

- (i) the suspension springs,
- (ii) the axle,
- (iii) the hubs,
- (iv) the disc wheels, or
- (v) the tires.

(3) The rated load carrying capacity referred to in paragraphs 2(a) and (b) for suspension springs, axles, hubs, disc wheels, spoke wheels, demountable rims or tires shall

(a) be measured at the tire-ground interface; and

(b) except in the case of heavy hauler trailers, be the continuous service ratings supplied by the respective

manufacturers of the suspension springs, axles, hubs, disc wheels, spoke wheels, demountable rims or tires.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.
amended by

SOR/79-940 6 December, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 303 is renumbered as section 901.

SCHEDULE V

(ss. 14 and 21)

Definitions

1100. In this schedule,

- “crankcase emission” means any air pollutant that is emitted into the atmosphere from any portion of the engine crankcase ventilation or lubrication systems; (gaz de carter)
- “evaporative emission” means hydrocarbons, other than exhaust emissions and crankcase emissions, emitted into the atmosphere from any part of a motor vehicle; (gaz d'évaporation)
- “exhaust emission” means an air pollutant emitted into the atmosphere from any opening downstream from the exhaust port of a vehicle engine; (gaz d'échappement)
- “fuel evaporative emission” means vaporized fuel emitted into the atmosphere from the fuel system of a motor vehicle; (gaz d'évaporation de carburant)
- “gross vehicle weight” means the manufacturer's gross weight rating for a vehicle; (poids brut)
- “heavy-duty engine” means any engine that the engine manufacturer expects to be used for motive power in a heavy-duty vehicle; (moteur de véhicule lourd)
- “heavy-duty vehicle” means, for the purposes of sections 1101 to 1105 and notwithstanding the definition “heavy-duty vehicle” in section 2, any motor vehicle rated at more than 3 855.6 kg (8,500 lb.) GVWR or that has a vehicle curb weight of more than 2 721.6 kg (6,000 lb.) or a basic vehicle frontal area in excess of 4.2 m² (45 sq. ft.); (véhicule lourd)
- “light-duty truck” means, for the purposes of sections 1101 to 1105, any motor vehicle rated at 3 855.6 kg (8,500 lb.) GVWR or less or that has a vehicle curb weight of 2 721.6 kg (6,000 lb.) or less and a basic vehicle frontal area of 4.2 m² (45 sq. ft.) or less, and that is
 - (a) designed primarily for purposes of transportation of property or that is a derivative of a vehicle that is so designed,

(b) designed primarily for transportation of persons and having designated seating capacity of more than 12 persons, or

(c) available with special features that enable it to be operated and used off-street or off-highway;

(camionnette)

"'light-duty vehicle'" means, for the purposes of sections 1101 to 1105, and notwithstanding the definition "'light duty vehicle'" in section 2, any motor vehicle designed primarily for the transportation of persons and having a designated seating capacity of not more than 12 persons; (véhicule léger)

"'loaded vehicle weight'" means the vehicle curb weight plus 136.1 kg (300 lb.); (poids avec charge)

"'opacity'", in relation to any plume of smoke, means the fraction of a beam of light, expressed in percent, that fails to penetrate the plume of smoke; (opacité)

"'oxides of nitrogen'" means the sum of the nitric oxide and nitrogen dioxide that would be contained in a gas if the nitric oxide were in the form of nitrogen dioxide; (oxydes d'azote)

"'system or device'" means any modification of a vehicle or vehicle engine that prevents or lessens the emission of any air pollutant or noise into the atmosphere. (système ou dispositif)

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-115 26 January, 1979 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1979

The definition "system or device" in section 1100 of Schedule V.

SOR/86-387 26 March, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1987

Revoked and replaced.

SOR/87-334 11 June, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective December 1, 1988

The definitions "heavy-duty vehicle", "loaded vehicle weight" and "oxides of nitrogen" in section 1100 of Schedule V; the definition "light-duty truck" in section 1100 of Schedule V preceding paragraph (a); and section 1100 of Schedule V by adding the definitions "evaporative emission" and "heavy-duty engine".

General

1101. (1) A system or device

(a) shall not cause emission into the atmosphere of any air pollutant that would not be emitted into the atmosphere during the operation of the vehicle or vehicle engine if it were not equipped with the system or device; and

(b) shall not result in any unsafe condition endangering persons or property.

(2) Compliance with the requirements of this Schedule shall be demonstrated by appropriate test methods and, in the case of a heavy-duty vehicle, the requirements shall be those applicable at the time of manufacture of

(a) the heavy-duty engine of the heavy-duty vehicle, for exhaust emissions; and

(b) the heavy-duty vehicle, for evaporative emissions.

(3) A system or device shall be deemed to meet the requirements of this Schedule if it is of the same construction, in all respects material to compliance with this Schedule, as a system or device that meets such requirements when tested in accordance with subsection (2).

(4) Every light-duty vehicle and light-duty truck shall have permanently attached thereto, in a readily visible position in the engine compartment to equipment that is not easily detached from the vehicle and in such a manner that it cannot be removed without being destroyed or defaced, a plastic or metal label stating

(a) that the label contains vehicle emission control information;

(b) the full corporate name and trademark of the manufacturer;

(c) the engine size in cubic inches;

(d) the engine tune-up specifications and adjustments recommended by the manufacturer, including idle speed, ignition timing and, if the idle air-fuel mixture is not stated as being non-adjustable, the idle air-fuel mixture setting procedure;

(e) the proper transmission position during tune up and the accessories that should be in operation; and

(f) any other information that the manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle.

(5) Every vehicle provided with an emission control device the performance of which will be impaired by the use of leaded gasoline shall have

(b) a warning to that effect that is

(i) immediately adjacent to the gasoline tank filler inlet, and

(ii) in both official languages; and

(c) a gasoline tank filler inlet that

(i) allows the insertion of a nozzle spout terminal end that has an outside diameter not greater than 2.134 cm (0.84 inch),

(ii) has a restriction preventing the insertion of a nozzle spout terminal end that has an outside diameter greater than 2.362 cm (0.93 inch), and

(iii) is designed to pass not more than 0.7 L of gasoline into the tank when introduction of gasoline is attempted from a nozzle referred to in subparagraph (ii).

(6) Every heavy-duty vehicle shall have, a legible label permanently attached thereto, in such a manner that it cannot be removed without being destroyed or defaced, in a readily visible position in the engine compartment or, if the vehicle does not have an engine compartment, in a readily visible position on the operator's enclosure or on the engine, and not attached to any equipment that is easily detached from the vehicle, a legible label stating in both French and English, or two legible labels, one in French and the other in English, stating,

(a) that the label contains important engine information;

(b) the full corporate name and trademark of the engine manufacturer;

(c) the engine displacement in litres or cubic inches and the engine family and model designations;

(d) the month and year of engine manufacture;

(e) the engine specifications and adjustments as recommended by the engine manufacturer, the proper transmission position during a tune-up and the accessories, if any, that should be in operation during the tune-up;

(f) for gasoline-fuelled engines, the idle speed, ignition timing, idle air-fuel mixture setting procedure and idle air-fuel mixture setting value and valve lash; and

(g) for diesel-fuelled engines, the horsepower at rpm, fuel rate at horsepower in cubic millimetres per stroke, valve lash, initial injection timing and idle speed.

(7) Every gasoline-fuelled heavy-duty vehicle shall have, permanently attached thereto, in such a manner that it cannot be removed without being destroyed or defaced, in a readily visible position in the engine compartment or, if the vehicle does not have an engine compartment, in a readily visible position on the operator's enclosure or on the engine, and not attached to any equipment that is easily detached from the vehicle, a legible label stating in both French and English, or two legible labels, one in French and the other in English, stating,

(a) that the label contains vehicle emission control information;

(b) the full corporate name and trademark of the vehicle manufacturer;

(c) the evaporative family identification relating to the engine; and

(d) the maximum nominal fuel tank capacity in litres, U.S. gallons or Imperial gallons for which the evaporative control system is certified.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-385 23 May, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1981

Paragraph 1101(4)(d) of Schedule V.

SOR/84-688 23 August, 1984 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Paragraph 1101(5)(a) of Schedule V is revoked; and subparagraphs 1101(5)(c)(i) to (iii) of Schedule V.

SOR/86-387 26 March, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1987

Subsection 1101(4) of Schedule V preceding paragraph (a).

SOR/87-334 11 June, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective December 1, 1988

Subsection 1101(2) of Schedule V; and section 1101 of Schedule V by adding subsections (6) and (7).

Crankcase Emissions

1102. The crankcase of a vehicle engine, except a heavy-duty vehicle diesel engine using turbochargers, pumps, blowers, or superchargers for air induction, shall be constructed in such a manner and be capable of being maintained in such a condition that crankcase emissions are not discharged into the atmosphere.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/86-387 26 March, 1986 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1987

Revoked and replaced.

SOR/87-334 11 June, 1987 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective December 1, 1988

Revoked and replaced.

Exhaust Emissions

1103. (1) The hydrocarbon, carbon monoxide and oxides of nitrogen content of the exhaust emission from a vehicle powered by a gasoline-fuelled or diesel-fuelled engine and the particulate content of the exhaust emission from a vehicle powered by a diesel-fuelled engine, when the vehicle is subjected to the appropriate test methods set out in section 1101, entitled "Vehicle Emissions", of Chapter IV of the Motor Vehicle Safety Test Methods, dated October 1, 1985 for light-duty vehicles and light-duty trucks and dated January 1, 1987 for heavy-duty vehicles, shall not exceed the following:

(a) for a light-duty vehicle,

(i) 0.25 g per vehicle kilometre (0.41 g per vehicle mile) of hydrocarbons,

(ii) 2.1 g per vehicle kilometre (3.4 g per vehicle mile) of carbon monoxide,

(iii) 0.62 g per vehicle kilometre (1.0 g per vehicle mile) of oxides of nitrogen, and

(iv) in the case of a diesel-fuelled light-duty vehicle, 0.12 g per vehicle kilometre (0.20 g per vehicle mile) of diesel particulates;

(b) for a light-duty truck,

(i) 0.50 g per vehicle kilometre (0.80 g per vehicle mile) of hydrocarbons,

(ii) 6.2 g per vehicle kilometre (10 g per vehicle mile) of carbon monoxide,

(iii) having a loaded vehicle weight of

(A) 1 701.0 kg (3,750 lb.) or less, 0.75 g per vehicle kilometre (1.2 g per vehicle mile) of oxides of nitrogen, and

(B) more than 1 701.0 kg (3,750 lb.), 1.1 g per vehicle kilometre (1.7 g per vehicle mile) of oxides of nitrogen, and

(iv) in the case of a diesel-fuelled light-duty truck, 0.16 g per vehicle kilometre (0.26 g per vehicle mile) of diesel particulates;

(c) for a gasoline-fuelled heavy-duty vehicle having a GVWR of 6 350.3 kg (14,000 lb.) or less,

(i) 0.41 g per megajoule (1.1 g per brake horsepower-hour) of hydrocarbons,

(ii) 5.36 g per megajoule (14.4 g per brake horsepower-hour) of carbon monoxide, and

(iii) 2.2 g per megajoule (6.0 g per brake horsepower-hour) of oxides of nitrogen;

(d) for a gasoline-fuelled heavy-duty vehicle having a GVWR of more than 6 350.3 kg (14,000 lb.),

(i) 0.71 g per megajoule (1.9 g per brake horsepower-hour) of hydrocarbons,

(ii) 13.8 g per megajoule (37.1 g per brake horsepower-hour) of carbon monoxide, and

(iii) 2.2 g per megajoule (6.0 g per brake horsepower-hour) of oxides of nitrogen; and

(e) for a diesel-fuelled heavy-duty vehicle,

(i) 0.48 g per megajoule (1.3 g per brake horsepower-hour) of hydrocarbons,

(ii) 5.77 g per megajoule (15.5 g per brake horsepower-hour) of carbon monoxide,

(iii) 2.2 g per megajoule (6.0 g per brake horsepower-hour) of oxides of nitrogen, and

(iv) 0.22 g per megajoule (0.60 g per brake horsepower-hour) of diesel particulates.

(2) Where a light-duty vehicle, light-duty truck or heavy-duty vehicle is modified by a system or device, the system or device shall be designed to assist or enable the vehicle to meet the requirements of subsection (1).

(3) The carbon monoxide content at curb idle of the exhaust gases from

(a) a gasoline-fuelled light-duty truck engine, when the engine is subjected to the appropriate test methods set out in section 1101, entitled "Vehicle Emissions", of Chapter IV of the Motor Vehicle Safety Test Methods, dated October 1, 1985, shall not exceed 0.50 per cent of exhaust gas flow; and

(b) a gasoline-fuelled heavy-duty vehicle utilizing after-treatment technology, when the engine is subjected to the appropriate test methods set out in section 1101, entitled "Vehicle Emissions", of Chapter IV of the Motor Vehicle Safety Test Methods, dated January 1, 1987, shall not exceed 0.50 per cent of exhaust gas flow.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-385 23 May, 1980 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act

Subsection 1103(1) of Schedule V preceding paragraph (a); subsection 1103(2) of Schedule V; and subsection 1103(4) of Schedule V.

SOR/86-387 26 March, 1986 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective September 1, 1987

Revoked and replaced.

SOR/87-334 11 June, 1987 pursuant to sections 4 and 7 of the Motor Vehicle Safety Act, effective December 1, 1988

Revoked and replaced.

Opacity

1104. The opacity of smoke emission from a diesel-fuelled heavy-duty vehicle, when the vehicle is subjected to the appropriate test methods set out in section 1101, entitled "Vehicle Emissions", of Chapter IV of the Motor Vehicle Safety Test Methods, dated January 1, 1987, shall not exceed

- (a) 20 per cent during the engine acceleration mode;
- (b) 15 per cent during the engine lugging mode; and
- (c) 50 per cent during the peak of the engine acceleration and the engine lugging mode.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-385 23 May, 1980 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act

Section 1104 of Schedule V preceding paragraph (a).

SOSR/87-334 11 June, 1987 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective December 1, 1988

Revoked and replaced.

Evaporative Emissions

1105. The evaporative hydrocarbon emissions from a gasoline-fuelled motor vehicle, when the vehicle is subjected to the appropriate test methods set out in section 1101, entitled 'Vehicle Emissions', of Chapter IV of the Motor Vehicle Safety Test Methods, dated October 1, 1985 for light-duty vehicles and light-duty trucks and dated January 1, 1987 for heavy-duty vehicles, shall not exceed

- (a) for a light-duty vehicle, 2.0 g per test;
- (b) for a light-duty truck, 2.0 g per test;
- (c) for a heavy-duty vehicle having a GVWR of 6 350.3 kg (14,000 lb.) or less, 3.0 g per test; and
- (d) for a heavy-duty vehicle having a GVWR of more than 6 350.3 kg (14,000 lb.), 4.0 g per test.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/80-385 23 May, 1980 pursuant to sections 4 and 7 of the
Motor Vehicle Safety Act

Revoked and replaced.

SOR/86-387 26 March, 1986 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1987

Revoked and replaced.

SOR/87-334 11 June, 1987 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective December 1, 1988

Revoked and replaced.

Noise

1106. (1) Every vehicle shall be so constructed that

(a) it complies with section 6, Specifications of ECE Regulation No. 9, 'Uniform Provisions Concerning the Approval of Vehicles With Regard to Noise', (March 1974) except that the test described in Annex 3, paragraph 3.2 of those provisions shall be omitted, or

(b) the noise emitted by it is

(i) in the case of a heavy duty truck with a GVWR of more than 4 500 kg (10,000 lbs), not in excess of 83 dbA when measured in accordance with Motor Vehicle Safety Test Methods, section 1106 'Noise Emmission Tests for Motor Vehicles', (15 September 1978),

(ii) in the case of a heavy duty bus with a GVWR of more than 4 500 kg (10,000 lbs) not in excess of 83 dbA when measured in accordance with Motor Vehicle Safety Test Methods, section 1106 'Noise Emmissions Tests for Motor Vehicles', (15 September 1978),

(iii) in the case of a heavy duty vehicle with a GVWR of 4 500 kg (10,000 lbs) or less, not in excess of 83 dbA when measured in accordance with SAE Standard J986a, 'Sound Level for Passenger Cars and Light Trucks', (July 1972),

(iv) in the case of a light duty vehicle, not in excess of 80 dbA when measured in accordance with SAE Standard J986a, 'Sound Level for Passenger Cars and Light Trucks', (July 1972), or

(v) in the case of a motorcycle, not in excess of 86 dbA when measured in accordance with SAE Standard J986a, 'Sound Level for Passenger Cars and Light Trucks', (July 1972),

when a value of 2 dbA, to allow for variations in test site, temperature gradients, wind velocity gradients, test equipment and inherent differences in nominally identical vehicles, is subtracted from the highest average noise value recorded during the test described in the publication referred to in subparagraph (i), (ii), (iii), (iv) or (v), whichever is applicable.

(2) Every truck and bus with a GVWR of more than 4 500 kg (10,000 pounds) shall be so constructed that the interior sound level at the driver's seating position does not exceed 90 dbA when measured as follows:

(a) the vehicle is located so that no other vehicle or signboard, building, hill or other large reflecting surface is within 15.2 m (50 feet) of the driver's seating position;

(b) all vehicle doors, windows and ventilators are closed;

(c) all power-operated accessories are turned off;

(d) the driver is in his normal seated driving position and the person conducting the test is the only other person in the vehicle;

(e) a sound level meter is used that is set at the A-weighting "fast" meter response and meets the requirements of

(i) the American National Standards Institute, Standard ANSI S1.4-1971, "Specification for Sound Level Meters", for Type 1 Meters; or

(ii) the International Electrotechnical Commission (IEC), Publication No. 179 (1973), "Precision Sound Level Meters";

(f) the microphone is located so that it points vertically upward, 150 mm (6 inches) to the right and directly in line with and on the same plane as the driver's ear;

(g) if the motor vehicle's engine radiator fan drive is equipped with a clutch or similar device that automatically either reduces the rotational speed of the fan or completely disengages the fan from its power source in response to reduced engine cooling loads, the vehicle may be parked before testing with its engine running at high idle or any other speed the operator chooses for sufficient time, but not more than 10 minutes, to permit the engine radiator fan to automatically disengage;

(h) with the vehicle's transmission in neutral gear, the engine is accelerated to

(i) its maximum governed engine speed, if it is equipped with an engine governor, or

(ii) its speed at its maximum rated horsepower, if it is not equipped with an engine governor, and the engine is stabilized at that speed;

(i) the A-weighted sound level reading on the sound level meter for the stabilized engine speed condition referred to in subparagraph (h)(i) or (ii) is observed and, if it

has not been influenced by extraneous noise sources, is recorded;

(j) the vehicle's engine speed is returned to idle and the procedures set out in paragraphs (h) and (i) are repeated until two maximum sound levels within 2 dbA of each other are recorded, the two maximum sound level readings are then averaged; and

(k) the average obtained in accordance with paragraph (j), with a value of 2 dbA subtracted therefrom to allow for variations in test conditions and in the capabilities of meters, is the vehicle's interior sound level at the driver's seating position for the purposes of determining compliance with the requirements of this subsection.

(3) For the purposes of this section, the definition "light-duty vehicle" in section 2 shall be read as though for the words "an off-road utility vehicle" therein there were substituted the words "any vehicle having a gross vehicle weight of 2721.6 kg or less that is designed for carrying persons, property or a work-performing structure and that incorporates special features for off-road operations".

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/79-115 26 January, 1979 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1979

Revoked and replaced.

SOR/86-387 26 March, 1986 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act, effective September 1, 1987

Section 1106 of Schedule V by adding subsection (3).

SCHEDULE VI

(ss. 14 and 21)

Definitions

1200. In this Schedule,

'load carrying part' means any part or component capable of withstanding without failure or separation from the snowmobile a force equal to the curb weight of the snowmobile;

'snowmobile trailer' means a trailer designed primarily for the transportation of snowmobiles or snowmobile cutters.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Snowmobile Standards

1201. (1) Subject to subsection (2), every snowmobile, other than a competition snowmobile, shall comply with the standards set out in the Snowmobile Safety and Certification Committee, Inc. (Suite 310, 3975 University Drive, Fairfax, Virginia 22030, U.S.A.) publication entitled "Safety Standards for Snowmobile Product Certification SSCC/10", dated June 11, 1986, and the requirements stipulated in the approved tests set out therein when the snowmobiles are tested in accordance with those approved tests.

(2) Every snowmobile, other than a competition snowmobile, shall be equipped with the emergency stop switch set out in the standards referred to in subsection (1) and designed to provide an instantaneous interruption of the engine ignition system.

(3) Every headlamp, on a snowmobile manufactured on or after January 1, 1989 that is not a competition snowmobile, shall be on continuously when the engine of the snowmobile is operating.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/87-497 14 August, 1987 pursuant to sections 4 and 7 of
the Motor Vehicle Safety Act

Section 1201 of Schedule VI by adding subsection (7).

SOR/87-660 19 November, 1987 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Revoked and replaced.

Vehicle Identification Number

Section 1202 of Schedule VI of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/87-660 dated November 19, 1987, published in The Canada Gazette Part II, Volume 121, No. 25, dated December 9, 1987.

Handgrips

Section 1203 of Schedule VI of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/87-660 dated November 19, 1987, published in The Canada Gazette Part II, Volume 121, No. 25, dated December 9, 1987.

Noise

Section 1204 of Schedule VI of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/87-660 dated November 19, 1987, published in The Canada Gazette Part II, Volume 121, No. 25, dated December 9, 1987.

Shielding

Section 1205 of Schedule VI of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/87-660 dated November 19, 1987, published in The Canada Gazette Part II, Volume 121, No. 25, dated December 9, 1987.

Engine Controls

Section 1206 of Schedule VI of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/87-660 dated November 19, 1987, published in The Canada Gazette Part II, Volume 121, No. 25, dated December 9, 1987.

Tie-Down

1207. The skis of a snowmobile cutter shall be capable of being clamped to a snowmobile trailer by means of a tie-down cross bar attached to the trailer and passing over or through the skis.

1208. Every snowmobile trailer shall be equipped with

(a) one or more tie-down cross bars located in such a manner as to be capable of clamping the skis of as many snowmobiles as the trailer is capable of carrying; and

(b) tie-down points to which each snowmobile can be secured by ropes or straps and that are of sufficient strength to withstand a force of 500 pounds applied separately from any direction to each tie-down point.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

amended by

SOR/87-660 19 November, 1987 pursuant to sections 4 and 7
of the Motor Vehicle Safety Act

Section 1207 of Schedule IV.

FOR MVSR 1208 SEE MVSR 1207

Cutter Tow Bar

1209. Every snowmobile cutter shall be equipped with a rigid tow bar that, when coupled to a snowmobile, is

- (a) rigidly connected to the cutter so as to prevent yawing movement;
- (b) capable of 90 degrees of rolling movement in each direction in relation to the longitudinal vertical plane of the cutter; and
- (c) capable of allowing adequate pitching movement of the cutter.

Established by the CONSOLIDATED REGULATIONS OF CANADA, 1978.

Service Brake

Section 1210 of Schedule VI of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/87-660 dated November 19, 1987, published in The Canada Gazette Part II, Volume 121, No. 25, dated December 9, 1987.

Fuel Tanks for Snowmobiles

Section 1211 of Schedule VI of the Motor Vehicle Safety Regulations was revoked in accordance with SOR/87-660 dated November 19, 1987, published in The Canada Gazette Part II, Volume 121, No. 25, dated December 9, 1987.

